

# SUPERISYS

Industrial Identification, Industrial Communication,  
Industrial Sensing, Industrial Data



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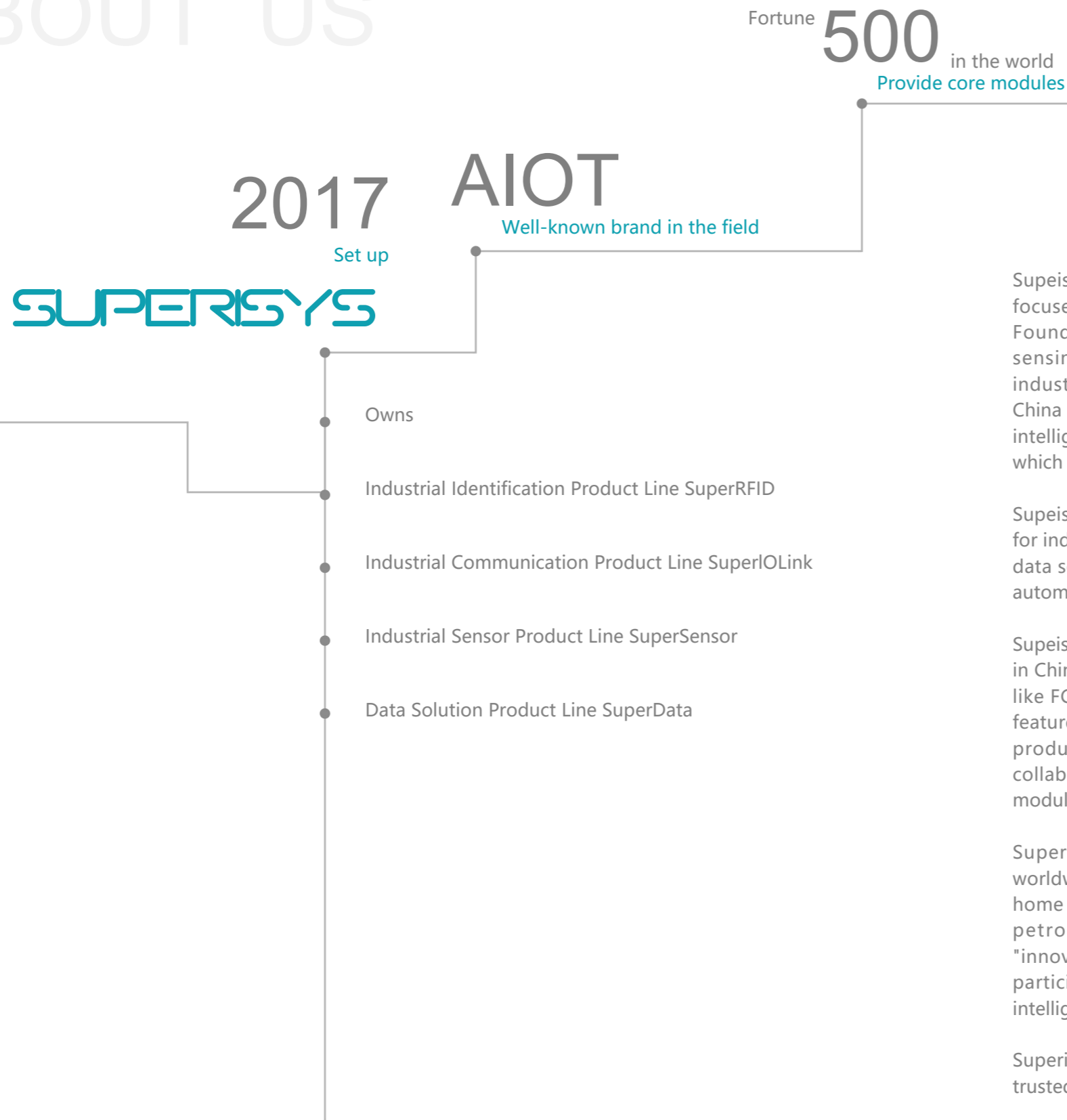
SuperRFID

SuperIOLink

SuperSensor

SuperData

# ABOUT US



Supeisys (Wuhan) Intelligent Technology Co., Ltd. is a domestic provider primarily focused on industrial identification, communication, sensing, and data solutions. Founded in 2017, the company acquired the renowned Canadian automation sensing and big data company ATOMBYTE's brand "Superisys" in the field of industrial automation. It established research and development centers in both China and North America. Supeisys was founded by several professors specializing in intelligent manufacturing, communication, and big data from McMaster University, which is globally ranked among the top ten in artificial intelligence.

Supeisys's product lines include SuperRFID for industrial identification, SuperIOLink for industrial communication, SuperSensor for industrial sensing, and SuperData for data solutions. It has become a well-known product brand in the field of industrial automation and AIoT (Artificial Intelligence of Things).

Supeisys's RFID product line boasts several advantages and operates simultaneously in China, Europe, and North America. The products meet North American standards like FCC, EMC, UL, as well as European certifications such as CE and ROHS. They feature patented high-speed read-write algorithms, and the entire high-frequency product range is compatible with high-speed read-write operations. Supeisys collaborates with multiple global industrial automation giants and provides core modules to many Fortune 500 companies.

Superisys products and solutions are widely applied across various industries worldwide, including automotive, new energy, photovoltaics, consumer electronics, home appliances, engineering machinery, aerospace, aviation, rail transportation, petrochemicals, and clothing. Supeisys's commitment to "reliability" and "innovation" drives the realization of Industry 4.0 in these industries, making it a participant in the global industrial sensing and communication's move towards intelligence in the Industry 4.0 domain.

Superisys, with its name meaning "super" and "intelligent system," aims to be your trusted partner in intelligent manufacturing.

01

model selection guide

Selection guide

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Industrial identification

Super RFID

02





























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	Stationary code reader	61
connector	RFID connector	71






















03

industrial communication



SuperCommunication

IOLINK main station	8-port series	74
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	16 digital input/output M8 series	84
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Digital quantity bus module	16 DIO bus modules	91
	32 DIO bus modules	97
exchange	100 megabit industrial switch	103
	Gigabit industrial switch	106
protocol converter	Industrial double serial port server	109

	picture	model	communication interface	Recognition distance(mm)	product size(L*W* H)	page number
LF		RF- LC12097	RS485 RS232 TCP	0 ~ 100mm	120*97*27.5mm	15
		RF- LA5010			50*28* 10mm	
HF	                                     	RF- HY18R- CAN RF- HY18R- R4 RF- HY18R- R2 RF- HY18R- IOL	CAN RS485 RS232 IOLINK	0 ~ 30mm	M18*60mm	19
		RF- HY18RE- R4 RF- HY18RE- R2	RS485 RS232	0 ~ 20mm	M18*62mm	20
		RF- HY18RL- R4 RF- HY18RL- R2 RF- HY18RL- IOL	RS485 RS232 IOLINK	0 ~ 30mm	M18*92mm	21
		RF- HY18RRA- R4 RF- HY18RRA- R2 RF- HY18RRA- IOL	RS485 RS232 IOLINK	0 ~ 30mm	M18*40*75mm	22
		RF- HY30R- R4 RF- HY30R- R2 RF- HY30R- IOL	RS485 RS232 IOLINK	0 ~ 60mm	M30*61mm	23
		RF- HY30RE- R4 RF- HY30RE- R2	RS485 RS232	0 ~ 30mm	M30*60mm	24
		RF- HC4820L- R4	RS485	0 ~ 25mm	48.3*20.3* 10mm	27
		RF- HZ40L- R4 RF- HZ40L- TP	RS485 TCP	0 ~ 60mm	40*40*66mm	
		RF- HZ50L- R4 RF- HZ50L- TP RF- HZ50L- IOL	RS485 TCP IOLINK	0 ~ 80mm	68 .4*50*30mm	
		RF- HZ80L- R4 RF- HZ80L- TP RF- HZ80L- IOL	RS485 TCP IOLINK	0 ~ 110mm	99*80*40mm	28
		RF- HZ100L- R4 RF- HZ100L- TP RF- HZ100L- IOL	RS485 TCP IOLINK	0 ~ 150mm	100* 100*38.5mm	
		RF-URDZ100L- R4 RF-URDZ100L-TP	RS485 TCP	0 ~ 1000mm	100* 100*38.5mm	41
		RF-URDZ160L- R4 RF-URDZ160L-TP	RS485 TCP	0 ~ 2000mm	160* 160*48mm	42
		RF-URDZ276L- R4 RF-URDZ276L- R2 RF-URDZ276L-TP	RS485 RS232 TCP	0 ~ 5000mm	276*276*70mm	
		RF-US240-4ANT-TP	TCP	0 ~ 4000mm	240* 180*28mm	45
		RF-US170-4ANT-TP	TCP	0 ~ 3000mm	170* 120*25.2mm	46

	picture	model	Storage memory	storage temperature	Metal resistance	Recognition distance	size	page number
LF		RF-LT-DR2B	1360bits	-40~125°C	Non-resistant metal	0~80mm	3.85*32.2mm	16
HF	                   	RF- HZMTY80M-112 RF- HZMTY80M-2K	112 Byte 2000 Byte	-40~125°C	antimetal	0~6mm 0~12mm	Φ8*4.5mm	30
		RF- HZMTY100M-112 RF- HZMTY100M-2K	112 Byte 2000 Byte	-40~125°C	antimetal	0~8mm 0~15mm	Φ10*4.5mm	
		RF- HZMTY1208M-112 RF- HZMTY1208M-2K	112 Byte 2000 Byte	-40~125°C	antimetal	0~15mm 0~20mm	11.8*7.8*4.5mm	
		RF- HZMTY200-112 RF- HZMTY200-2K	112 Byte 2000 Byte	-40~105°C	Non-resistant metal	0~75mm 0~50mm	Φ20*3mm	31
		RF- HZMTY220-112 RF- HZMTY220-2K	112 Byte 2000 Byte	-40~105°C	Non-resistant metal	0~80mm	Φ22*3mm	
		RF- HZMTY220M-112 RF- HZMTY220M-2K	112 Byte 2000 Byte	-40~85°C	antimetal	0~45mm 0~40mm	Φ22*3mm	
		RF- HZMTY250-112 RF- HZMTY250-2K	112 Byte 2000 Byte	-40~105°C	Non-resistant metal	0~95mm 0~70mm	Φ25*3mm	
		RF- HZMTY300-112 RF- HZMTY300-2K	112 Byte 2000 Byte	-40~150°C	Non-resistant metal	0~100mm 0~90mm	Φ30*4mm	32
		RF- HZMTY300M-112 RF- HZMTY300M-2K	112 Byte 2000 Byte	-40~105°C	antimetal	0~55mm 0~45mm	Φ30*4mm	
		RF- HZMTY500-112 RF- HZMTY500-2K	112 Byte 2000 Byte	-40~150°C	Non-resistant metal	0~150mm 0~100mm	Φ50*3.5mm	
		RF-UZMTY16MT-H3	EPC: 96 bits USER: 512 bits	-40~150°C	high temperature resistance	0~150mm	29*25*25mm	47
		RF-UZMTC4022MT-H3	EPC: 96 bits USER: 512bits	-40~180°C		0~250mm	42*20*8mm	
		RF-UZMTC4838MT-H3	EPC: 96 bits USER: 512 bits	-40~180°C		0~400mm	48*38*10mm	48
		RF-UZMTC4129MT-U8	EPC: 128 bits	-40~230°C		0~400mm	41*29*9mm	
		RF-UZMTY22MT-H3	EPC: 96 bits USER: 512 bits	-40~180°C		0~200mm	Φ28.5*8mm	
		RF-UZMTC6035MT-MX	EPC: 128 bits USER: 8K bits	-40~180°C		0~300mm	60*35*6.1mm	49
		RF-UZMTC6923M-U8	EPC: 128 bits	-40~80°C	antimetal	0~1000mm	69*23*7mm	
		RF-UZMTC8724M-U8	EPC: 128 bits	-40~80°C		0~1500mm	87*24*11mm	
RF-UZMT10330M-U8	EPC: 128 bits	-40~80°C		0~2000mm	103*30*7.5mm			
RF-UZMTC12922M-H3	EPC: 96 bits USER: 512 bits	-40~85°C		0~3000mm	129*22.4*10mm	50		
RF-UZMTC6604M-H3	EPC: 96 bits USER: 512 bits	-40~85°C		0~600mm	66*4*3mm			
RF-UZMTC6015M-H3	EPC: 96 bits USER: 512 bits	-40~85°C		0~800mm	60*15*3mm			
RF-UZMTC8015M-H3	EPC: 96 bits USER: 512 bits	-40~85°C		0~1000mm	80*15*3mm			
RF-UZMTC1305M-R6	EPC: 96 bits	-40~85°C		0~200mm	13*4.5*2mm			
RF-UZMTC2309M-R6	EPC: 96 bits	-40~85°C		0~300mm	23*9*3mm			

## Communication module quick selection table

picture	model	Communication type	port number	level of protection
	IACM- P4 - PN	PROFINET	4	IP67
	IACM- P4 - EIP	Ethernet/IP		
	IACM- P4 - ECT	EtherCAT		
	IACM- P4 - EN	MODBUS TCP		
	IACM- P2 - PN	PROFINET	2	IP67
	IACM- P2 - EIP	Ethernet/IP		
	IACM- P2 - ECT	EtherCAT		
	IACM- P2 - EN	MODBUS TCP		



## machine manufacturing、Automation industry

- tool、 Tool handle recognition
- Tool life management
- Machine tool authority management

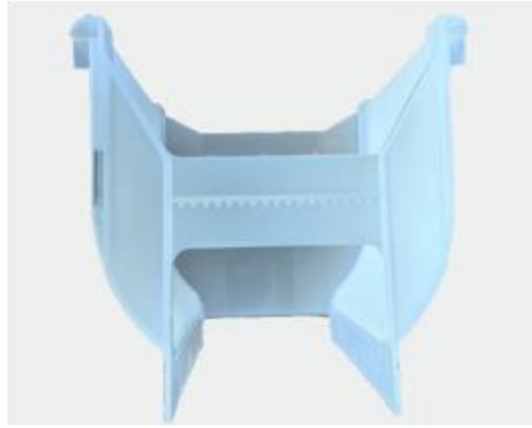
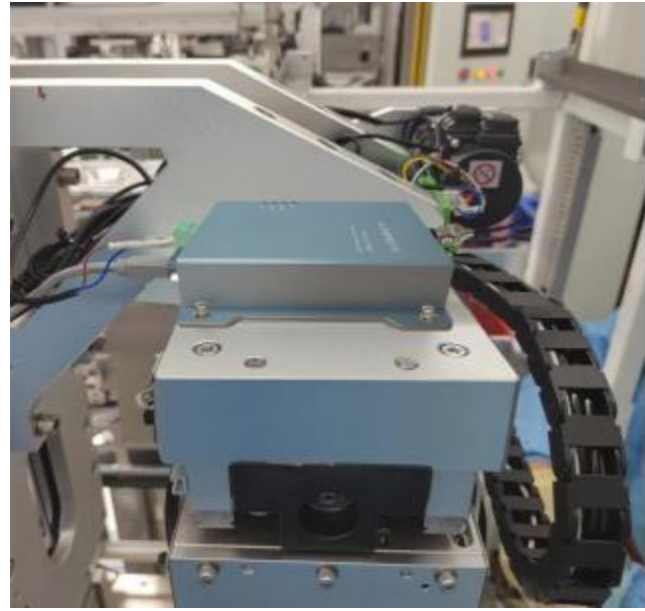
- Production parts/ Vehicle identification
- Parts information collection, traceability
- Parts production process guidance

### Common reader Type

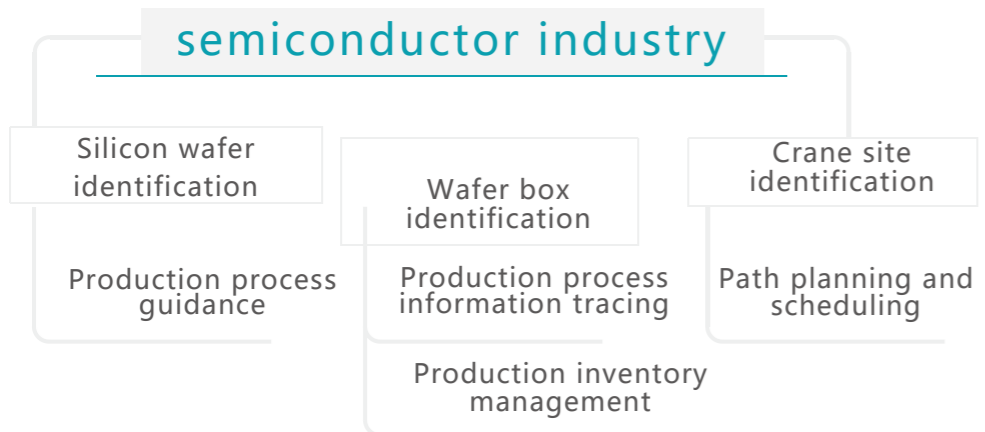
- RF-HY18R-R4
- RF-HY30R-R4
- RF-HZ50L-TP
- RF-HZ80L-TP
- RF-HZ100L-TP

### Common carrier type number

- RF-HZMTY80M-2K
- RF-HZMTY100M-2K
- RF-HZMTY250-2K
- RF-HZMTY300/M-2K
- RF-HZMTY500-2K



semiconductor industry



Common reader type

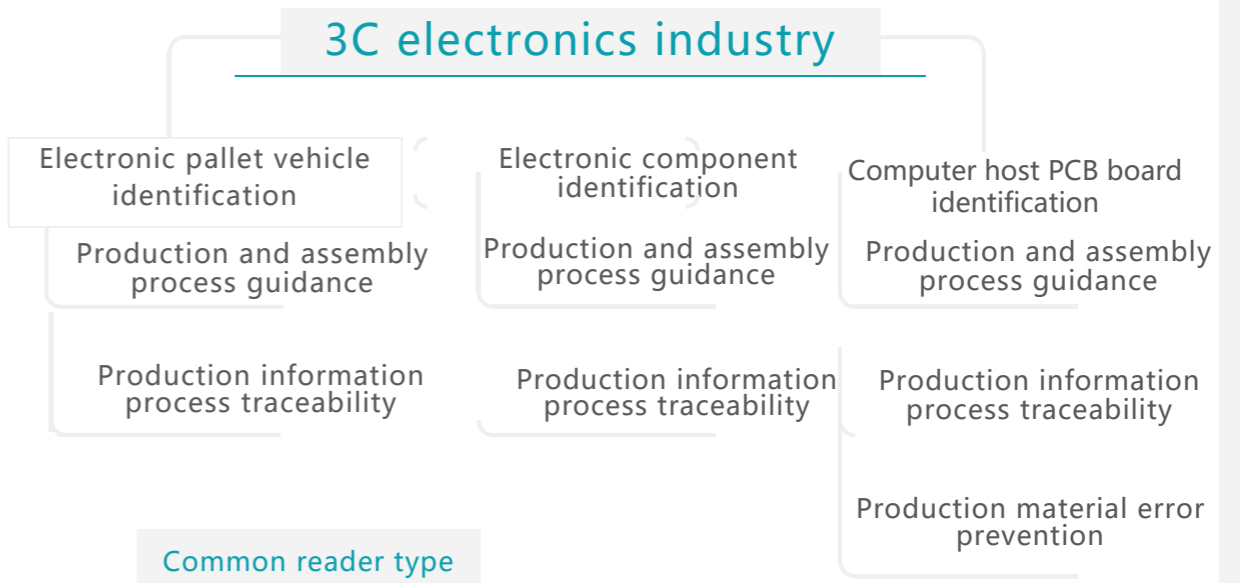
RF-LC12097

RF- LA5010

Common carrier type number

RF-LT-DR2B

3C electronics industry



Common reader type

RF-HY18R-R4

RF-HY30R-R4

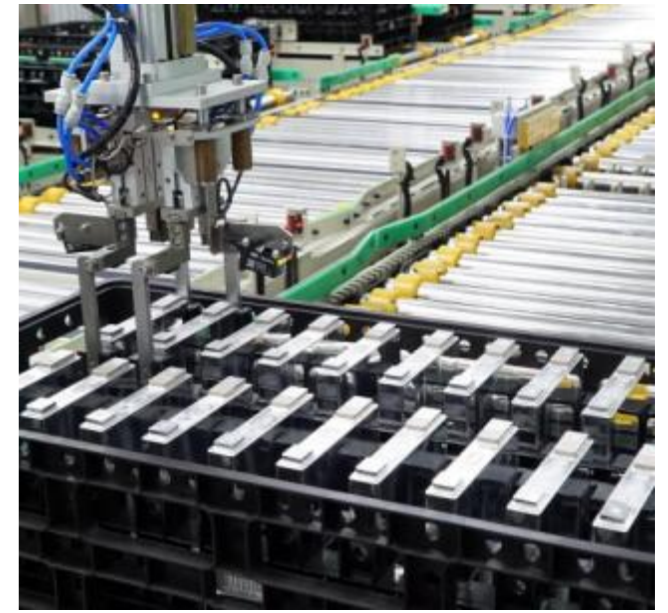
RF-HC4820L-R4

Common carrier type number

RF-HZMT Y80M-2K

RF-HZMTY100M-2K

RF-HZMTY200-2K



photovoltaic industry

Silicon sorting and vehicle identification

Trace the production process of silicon wafer manufacturing process

Battery basket vehicle identification

Trace the production process of the battery sheet manufacturing process

Common reader type

- RF-HY18R-R4
- RF-HY30R-R4
- RF-HC4820L-R4
- RF-HZ40L-TP
- RF-HZ50L-TP
- RF-HZ80L-TP

Common carrier type number

- RF-HZMT Y200M
- RF-HZMT Y300M
- RF-HZMTY200 -2K
- RF-HZMTY250 -2K
- RF-HZMTY300 -2K

Lithium battery industry

Battery cup identification

Cell manufacturing process tracing

Tank identification

Cell parameter transfer, cell voltage division, process guidance

Common reader type

- RF-HZ40L-TP
- RF-HZ50L-TP
- RF-HZ80L-TP

Common carrier type number

- RF-HZMTY200-2K
- RF-HZMTY300-2K
- RF-HZMTY500-2K



auto industry

Skidvehicleidentification

Welding workshop body VIN code and skid RFID binding, production process guidance and body information traceability

Common reader type

- RF-HZ80L
- RF-HZ100L
- RF-URDZ100L
- RF-URDZ160L

Body binding recognition

Coated body binding RFID, generating process guidance and error prevention  
Assembly body binding RFID, production and assembly process real-time guidance, assembly error prevention, generated information traceability

Common carrier type number

- RF-HZMTY300
- RF-HZMTY500
- RF-UZMTC8025M
- RF-UZMTC8724M
- RF-UZMTC6923M
- RF-UZMTC4129MT

Warehousing industry

Warehouse semi-finished product turnover box identification

Traceability of semi-finished products

Warehouse cargo pallets and shelves identification

Automatic warehouse management

Warehouse item identification

Intelligent inventory of warehouse

Forklift intelligent identification

Forklift intelligent transformation out and in storage management

Logistics intelligent sorting identification

Logistics intelligent sorting system

Common reader type

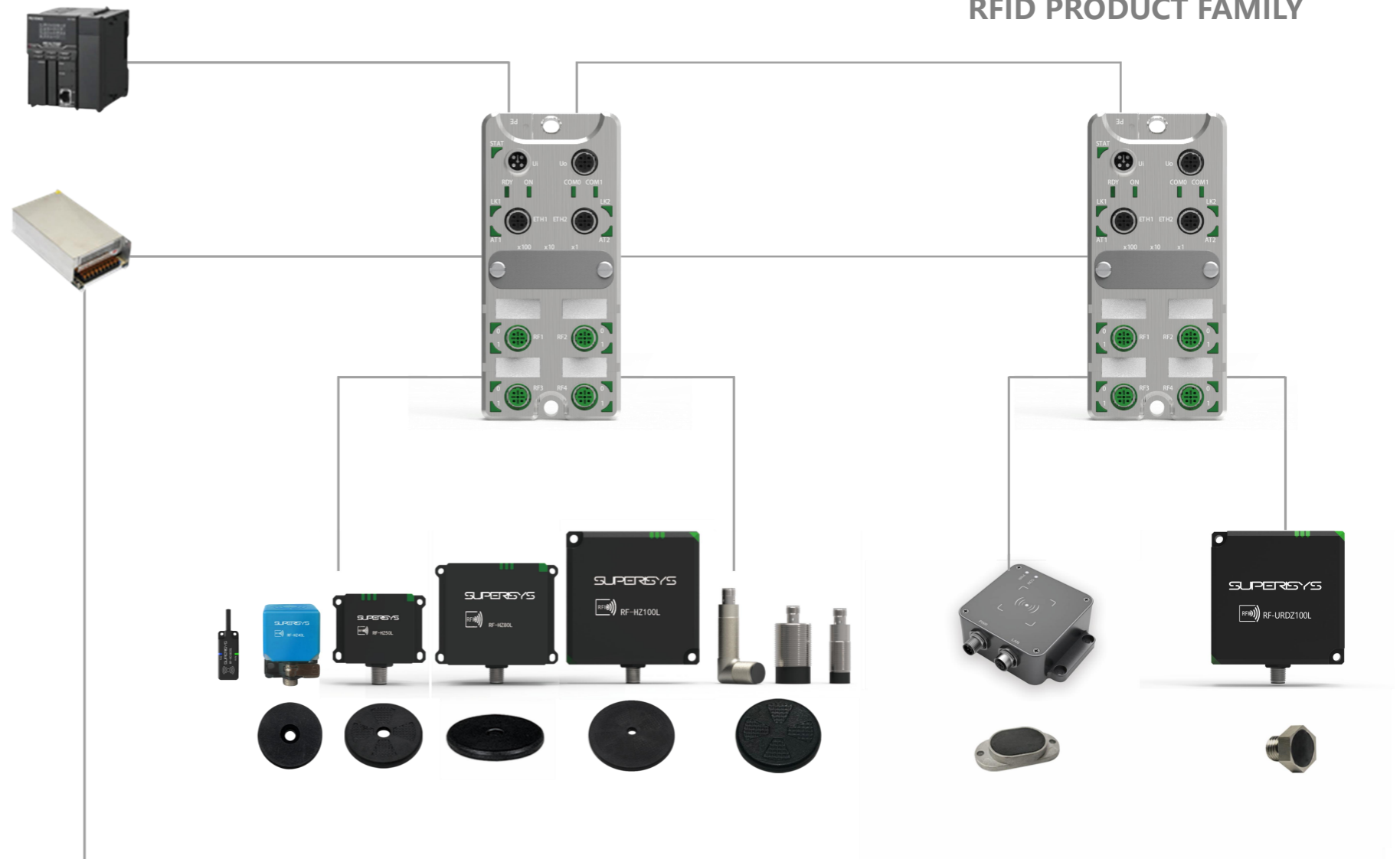
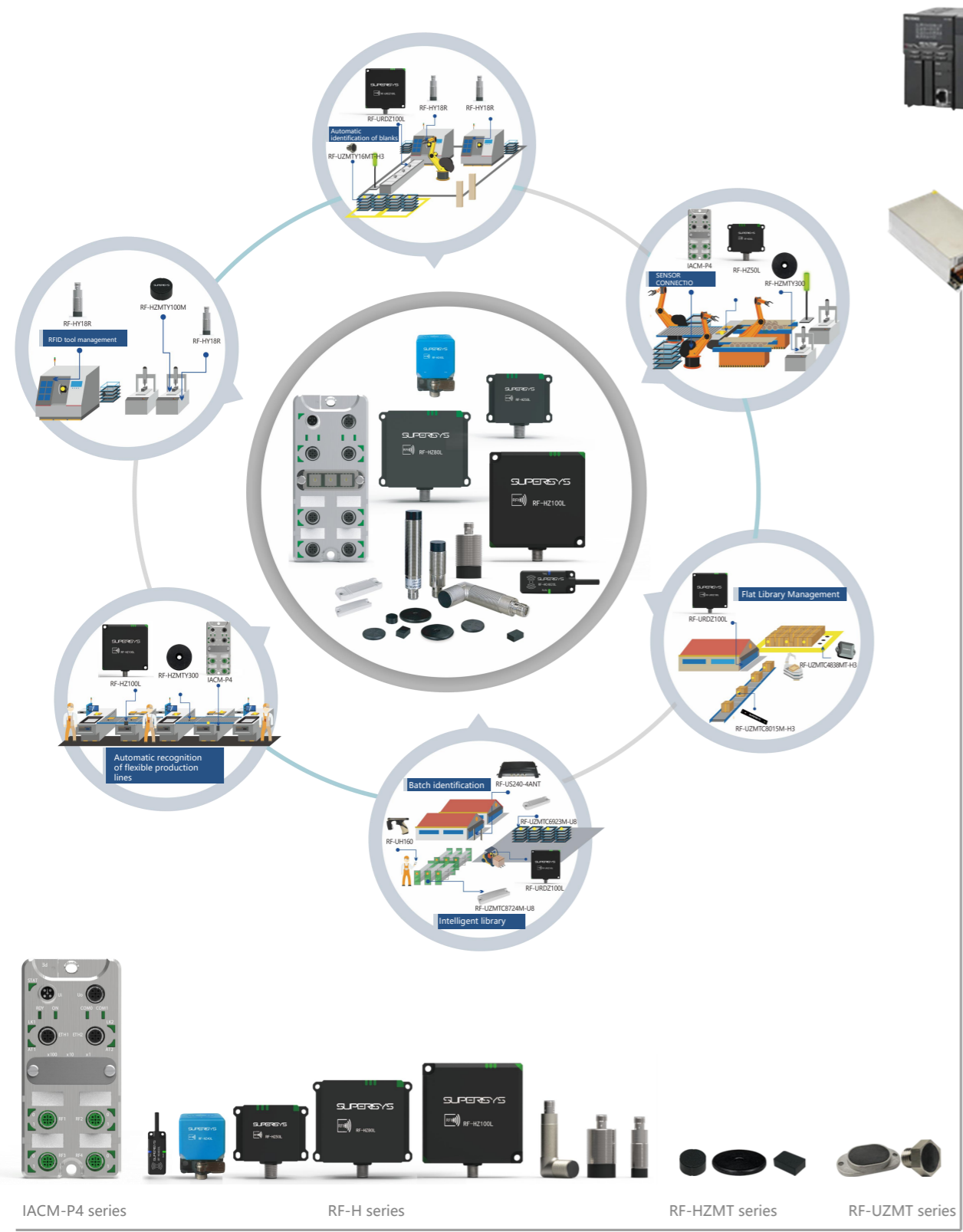
- RF-HZ80L
- RF-HZ100L
- RF-URDZ160L
- RF-URDZ100L

Common carrier type number

- RF-HZMTY300
- RF-HZMTY500
- RF-UZMTC8025M
- RF-UZMTC8724M
- RF-UZMTC6923M
- RF-UZMTC10330M



# RFID PRODUCT FAMILY



Two major RFID product series, supporting ISO protocols: high-frequency and ultra-high-frequency. RFID readers and writers pass the 10V conducted interference test, suitable for complex electromagnetic interference environments. Bus modules support communication protocols like ProfiNet, Ethernet/IP, EtherCAT, and MODBUS TCP, making integration with various PLCs convenient. Bus modules feature dual network ports and dual power ports, enabling easy serial connections. RFID tag memory has 2000 bytes of FRAM and supports 10 billion write/erase cycles, meeting the frequent read/write demands of the 3C industry. High-temperature-resistant special RFID tags support applications up to 260°C, meeting the requirements of most high-temperature environments. This series of products comes in various sizes, making installation and deployment simple, suitable for compact 3C automation production applications.

# RF-L series

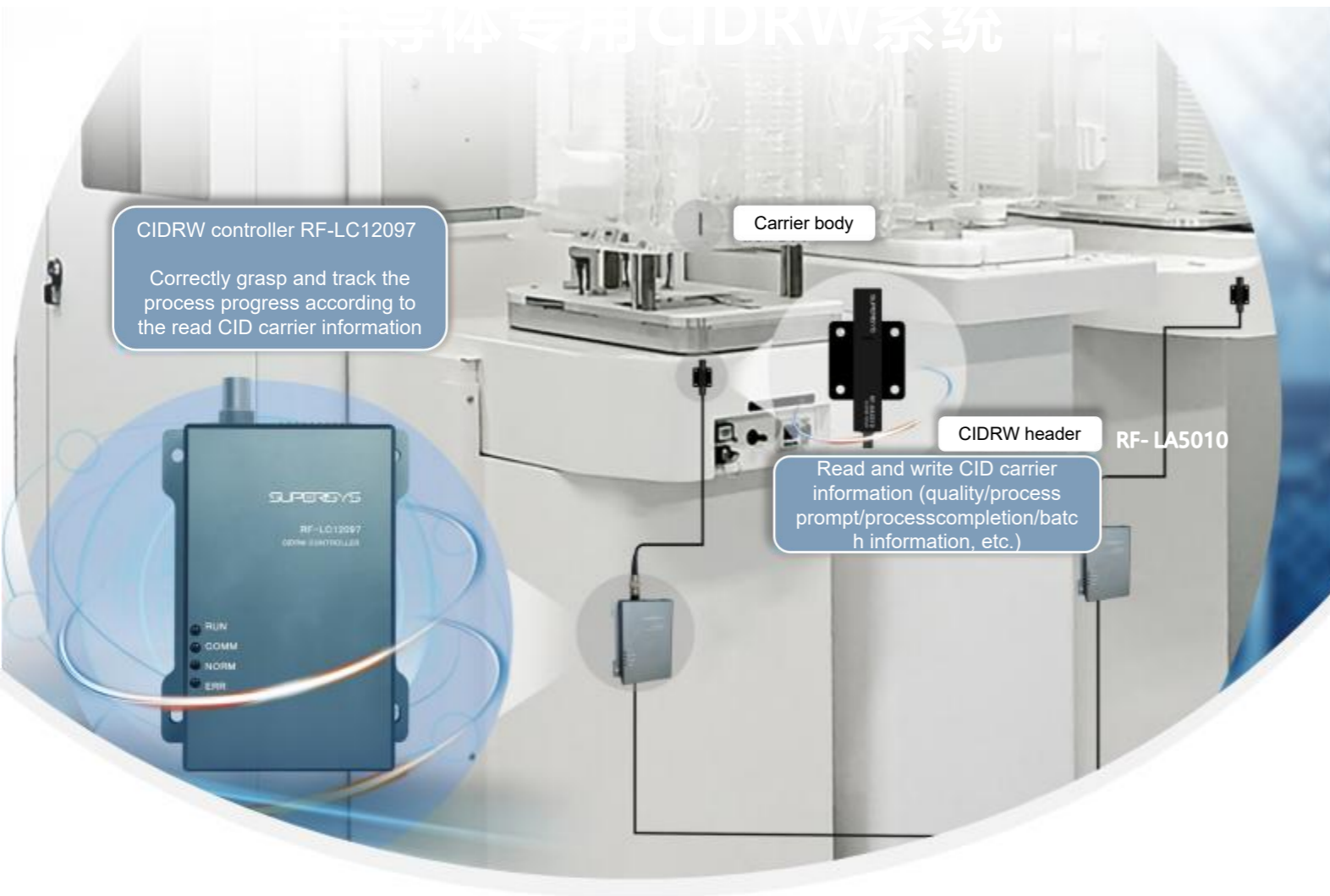
Low frequency split type reader

LOW  
FREQUENCY

application area

APPLICATION FIELD

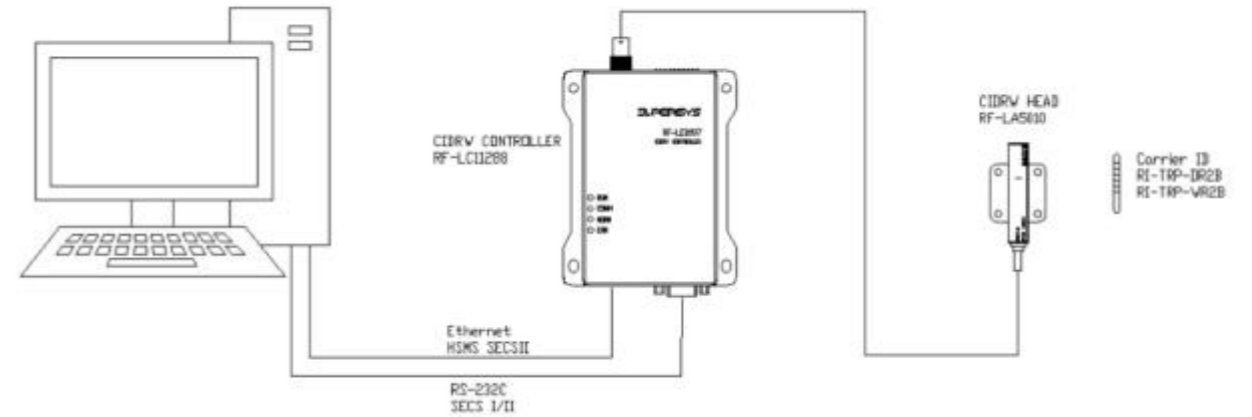
semiconductor



## PRODUCT FEATURE

product feature

- 134.2K frequency, support ISO 11784, ISO 11785 protocol;
- Support RI-TRP-DR2B, manufactured by Texas Instruments (TI)
- RI-TRP-WR2B RF label;
- Support RS232, RS485, Ethernet communication;
- Support SECS protocol, MODBUS RTU and MODBUS TCP protocol



The system applies to the following SEMI standards:

- SEMI E99 Carrier ID read/write standard
- SEMI E37 High-speed SECS Messaging Service Common Service (HSMS)
- SEMI E5 Device Communication Standard 2 Message Content (SECS II)
- SEMI E4 Device Communication Standard 1 Message Content (SECS I)



product model	RF-LC12097
working frequency	RAM 134.2Khz
work pattern	HDX
wireless protocol	ISO 11784、ISO 11785
mains input	9~30VDC
average current	<0.1A@24VDC
indicator light	four LEDindicator light
Number of antenna ports	one
Antenna interface type	BNCFemale head
communication interface	Ethernet, RS-485, RS-232
communication protocol	SECS MODBUS TCP MODBUS RTU
boundary dimension	120*97*27.5mm
fixture type	four M5threaded hole
canning material	aluminium alloy
Shell color	gray
operating temperature	-25°C~+70°C
storage temperature	-40°C~+85°C
humidity	5%~95%RH (without compensation)
Waterproof and dustproof grade	IP20, EN 60529
Vibration resistance	2 mm (f= 5...29.5 Hz) , EN 60068-2-6 7 gn (f= 29.5...150 Hz) , EN 60068-2-6
Electrostatic discharge immunity ESD	IEC 61000-4-2
RoHSdirective	2011/65/EU, 2015/863/EU



product model	RF- LA5010
working frequency	134.2Khz
Antenna interface type	BNCmale connector
Cable type	coaxial line
Cable length	2 meters
boundary dimension	50*28*10mm
fixture type	4 M3 screw holes
canning material	PC+ABS
Shell color	black
operating temperature	-25°C~+70°C
storage temperature	-25°C~+85°C
humidity	5%~95%RH (without condensation)
Waterproof and dustproof grade	IP67, EN 60529
Vibration resistance	2 mm (f= 5...29.5 Hz) , EN 60068-2-6 7 gn (f= 29.5...150 Hz) , EN 60068-2-6
RoHSdirective	2011/65/EU, 2015/863/EU



product model	RF-LT-DR2B
size	3.85mm × 32.2mm
shell material	glass
level of protection	IP68
operating temperature	0~+70°C
storage temperature	-40~+125°C
working frequency	working frequency
Air mouth agreement	ISO 11784、ISO 11785
working	HDX (half-duplex)
internal storage	1360bits
user memory	17 page * 80 bit
Erasing frequency	10Ten thousand times

# RF-HY series

High frequency precision reader

HIGH  
FREQUENCY

APPLICATION FIELD

- 3C electron
- Machine processing
- New energy
- Solar power



RF-HY18R RF-HY18RE RF-HY18RL RF-HY18RRA RF-HY30R RF-HY30RE

## PRODUCT FEATURE

product feature

- 13.56MHz operating frequency, support ISO15693 and ISO14443A protocols, communication mode CAN RS485, IO-Link, CAN, support MODBUS RTU, IO-Link, CANOPEN protocols, easy to integrate
- Brass nickel-plated shell, IP67 protection grade, can be applied to oil, dust, wet harsh conditions
- Power supply with over and over voltage protection and filtering function, can be applied to harsh electromagnetic interference environment
- Using 2 nuts to fix, small and diverse size, suitable for the size requirements are relatively high, precision manufacturing links to automatic identification scenes



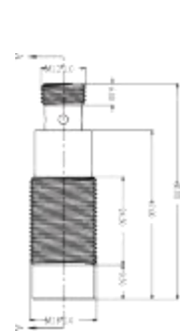
Products in process/tooling fixtures/fixtures/accessories are installed or embedded with RFID code carriers, RFID reading and writing devices are deployed on the stations of automated nodes, and multi-variety and large-scale production methods are realized through interaction with products in process, automatic real-time identification of single-grade products, automatic series automation equipment and robots, and personalized process transmission are realized. Scenarios such as automatic parameter definition and automatic device detection.

## APPLICATION SCENARI

application scenarios



product model RF-HY18R-CAN RF-HY18R-R4 RF-HY18R-R2 RF-HY18R-IOL



size:mm



size:mm



RF-HY18RE-R4 RF-HY18RE-R2



size:mm

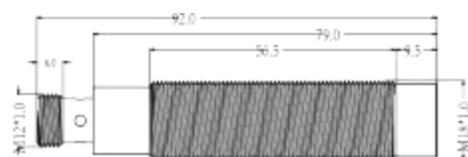
wireless protocol	ISO 15693、 ISO 14443A				ISO 15693	
working frequency	13.56MHZ					
output power	27.5dBm					
wireless speed	26.48kbps					
Read distance	0~30mm (Related to the code carrier)			0 ~20mm (Related to the code carrier)		
communication interface	CAN	RS485	RS232	IO- Link	RS485	RS232
communication protocol	CANOPEN	MODBUSRTU		IO- Link V1. 1	MODBUSRTU	
Communication rate	50~500kbps			230.4 kbps		9600~115200bp
Supply voltage	9~30VDC					
Average current	<0.05A@24VDC			<0.07A@24VDC		
pilot lamp	1 LED indicator					
Form factor	M18*60mm			M18*70mm		M18*62mm
Product interface	M12 Acode 4PIN male connector					
Fixed type	Nut fixing, screw threadM18*1.0					
Housing material	Nickel-plated brass+ABS					
Shell color	Silver + Black					
Total weight	30g					
Operating temperature	~ 25°C ~ +70°C					
Storage temperature	~ 25°C ~ +85°C					
humidity	5%~95%RH (No condensation)					
Vibration resistant	2mm(f=5...29.5Hz),EN 60068-2-6 7 gn(f=29.5...150 Hz),EN 60068-2-6					
Conducted immunity (CS)	3V, Class A (including main frequency)		10V, Over class A (except main frequency)			
Electrostatic discharge immunity ESD	Contact discharge, 8KV, over class A Air discharge, 15KV, over class A				IEC 61000-4-2	
Waterproof and dustproof rating	IP67,EN60529					
product certification	FCC、 CE					
ROHS directive	2011/65/EU, 2015/863/EU					



RF-HY18RL-R4

RF-HY18RL-R2

RF-HY18RL-IOL



Size:mm

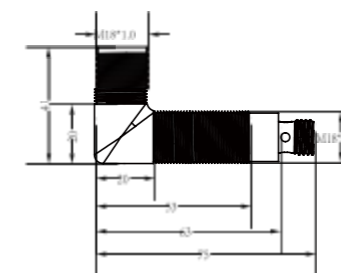
wireless protocol	ISO 15693、 ISO 14443A			ISO 15693		
working frequency	13.56MHZ					
output power	27.5dBm					
wireless speed	26.48kbps					
Read distance	0~30mm (Related to the code carrier)					
communication interface	RS485	RS232	IO- Link	RS485	RS232	IO- Link
communication protocol	MODBUSRTU		IO- Link V1. 1	MODBUSRTU		IO- Link V1. 1
Communication rate	9600~115200bp		230.4 kbps	9600~115200bp		230.4 kbps
Supply voltage	9~30VDC					
Average current	<0.07A@24VDC					
pilot lamp	1 LED indicator					
Form factor	M18*92mm			M18*14*75mm		
Product interface	M12 Acode 4PIN male connector					
Fixed type	Nut fixing, screw threadM18*1.0					
Housing material	Nickel-plated brass+ABS					
Shell color	Silver + Black					
Total weight	50g					
Operating temperature	~ 25°C ~ +70°C					
Storage temperature	~ 25°C ~ +85°C					
humidity	5%~95%RH (No condensation)					
Vibration resistant	2mm(f=5...29.5Hz),EN 60068-2-6 7 gn(f=29.5...150 Hz),EN 60068-2-6					
Conducted immunity (CS)	3V, Class A (including main frequency)		10V, Over class A (except main frequency)			
Electrostatic discharge immunity ESD	Contact discharge, 8KV, over class A Air discharge, 15KV, over class A IEC 61000-4-2					
Waterproof and dustproof rating	IP67,EN60529					
product certification	FCC、 CE					
ROHS directive	2011/65/EU, 2015/863/EU					



RF-HY18RRA-R4

RF-HY18RRA-R2

RF-HY18RRA-IOL



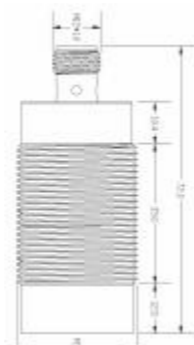
Size:mm



RF-HY30R-R4

RF-HY30R-R2

RF-HY30R-IOL



RF-HY30RE-R4

RF-HY30RE-R2



wireless protocol	ISO 15693			
working frequency	13.56MHZ			
output power	27.5dBm			
wireless speed	26.48kbps			
Read distance	0~60mm (Related to the code carrier)		0~30mm (Related to the code carrier)	
communication interface	RS485	RS232	IO- Link	RS485
communication protocol	MODBUSRTU		IO- Link V1. 1	MODBUSRTU
Communication rate	9600~115200bp		230.4 kbps	9600~115200bp
Supply voltage	9~30VDC			
Average current	<0.07A@24VDC			
pilot lamp	1 LED indicator			
Form factor	M30*61mm		M30*72mm	M30*60mm
Product interface	M12 Acode 4PIN male connector			
Fixed type	Nut fixing, screw threadM18*1.0			
Housing material	Nickel-plated brass+ABS			
Shell color	Silver + Black			
Total weight	65g			
Operating temperature	~ 25°C ~ +70°C			
Storage temperature	~ 25°C ~ +85°C			
humidity	5%~95%RH (No condensation)			
Vibration resistant	2mm(f=5...29.5Hz),EN 60068-2-6 7 gn(f=29.5...150 Hz),EN 60068-2-6			
Conducted immunity (CS)	3V, Class A (including main frequency) 10V, Over class A (except main frequency)			
Electrostatic discharge immunity ESD	Contact discharge, 8KV, over class A Air discharge, 15KV, over class A IEC 61000-4-2			
Waterproof and dustproof rating	IP67,EN60529			
product certification	FCC、 CE			

# RF-H<sup>SERIES</sup>

## HIGH FREQUENCY PERFORMANCE INTEGRATED READER/WRITER

High-frequency integrated industrial-grade RFID reader-writer. Communication methods available are RS485 or Ethernet. This product series offers good reading performance, long-range, high protection level, and is suitable for automated production processes across various industries.

APPLICATION FIELD

- 3C
- New Energy
- Home Appliances
- Pharmaceuticals
- Medical Equipment
- Construction Machinery
- Automotive
- Military Industry
- Rail Transit



RF-HC4820L-R4



RF-HZ40L



RF-HZ50L



RF-HZ80L



RF-HZ100L

### PRODUCT FEATURE

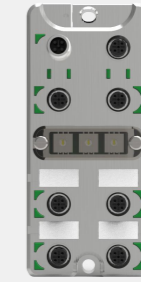
- Operates at a frequency of 13.56MHz, supporting ISO15693 and ISO14443A protocols.
- Supports MODBUS RTU and MODBUS TCP protocols, making it convenient for secondary development.
- Rated at IP67 protection level, it's suitable for harsh conditions like oil contamination, dust, humidity.
- The power supply comes with overcurrent and overvoltage protection, as well as a filtering function, making it adaptable to severe electromagnetic interference environments.



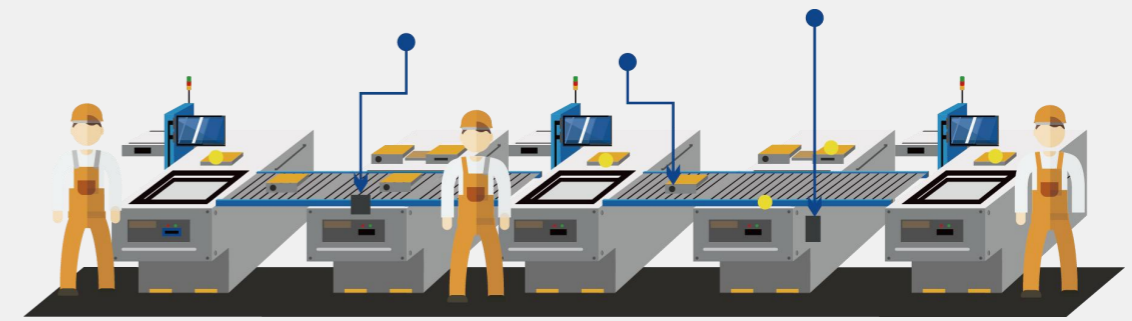
RF-HZ100L



RF-HZMTY300



IACM-P4



### Automatic identification of flexible production lines

RFID carriers are added or embedded into work-in-progress items, tooling fixtures, clamps, auxiliary parts, etc. RFID reading and writing equipment are deployed at automated node workstations. Through interaction with the work-in-progress items, it facilitates diversified and large-scale production methods. It achieves real-time automatic identification of individual products, automatically connects automated equipment and robots, realizes personalized transmission of processes, automated parameter definitions, and scenarios of automated equipment inspection.

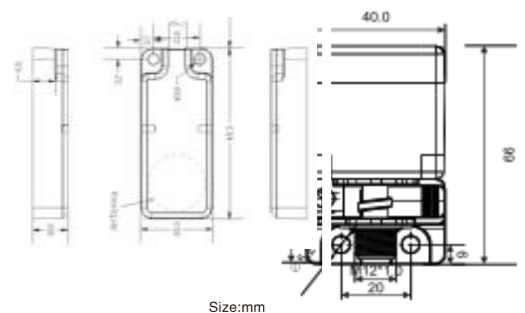
### TYPICAL CASE



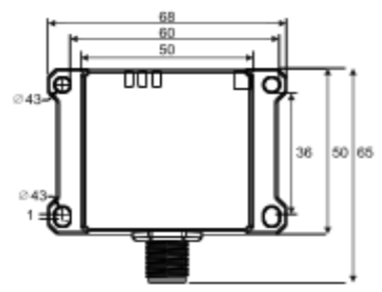
**SUPERISYS**  
RF-H SERIES TECHNICAL PARAMETERS



RF-HC4820L-R4 | RF-HZ40L-R4 | RF-HZ40L-TP | RF-HZ50L-R4 | RF-HZ50L-TP | RF-HZ50L-IOL



Size:mm



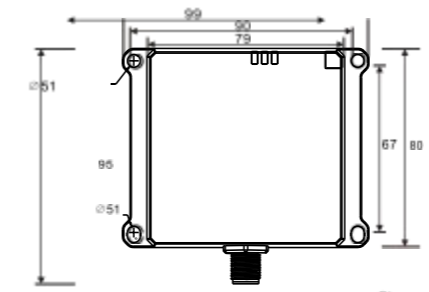
Size:mm

Size:mm

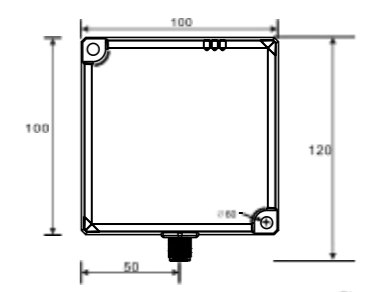
**SUPERISYS**  
TECHNICAL PARAMETERS RF-H SERIES



RF-HZ80L-R4 | RF-HZ80L-TP | RF-HZ80L-IOL | RF-HZ100L-R4 | RF-HZ100L-TP | RF-HZ100L-IOL



Size:mm



Size:mm

wireless protocol	ISO 15693														
working frequency	13.56MHZ														
output power	27.5dBm														
wireless speed	26.48kbps														
Read distance	0~25mm (Related to the code carrier)			0~60mm (Related to the code carrier)			0~80mm (Related to the code carrier)			0~110mm (Related to the code carrier)			0~150mm (Related to the code carrier)		
communication interface	RS485	RS485	Ethernet	RS485	Ethernet	IO- Link	RS485	Ethernet	IO- Link	RS485	Ethernet	IO- Link			
communication protocol	MODBUSRTU	MODBUSRTU	MODBUSTCP	MODBUSRTU	MODBUSTCP	IO- Link V1. 1	MODBUSRTU	MODBUSTCP	IO- Link V1. 1	MODBUSRTU	MODBUSTCP	IO- Link V1. 1			
Communication rate	9600~115200bp			10/100M adaptive			9600~115200bp			10/100M adaptive			230.4 kbps		
Supply voltage	9~30VDC														
Average current	<0.05A@24VDC														
pilot lamp	2 LED indicator			4 LED indicator									<0.07A@24VDC		
Form factor	M48.3*20.3*10mm			40*40*66mm			68.4*50.30mm			99*80*40mm			100*100*38.5mm		
Fixed type	2 M3 screw holes			2 M5 screw holes			4 M4 screw holes			4 M5 screw holes			2 M6 screw holes		
Housing material	PA66+GF30			PC+ABS											
Shell color	black			black+blue			black								
Total weight	About 33±5g			About 110g			About 90g			About 200g			About 350g		
Operating temperature	~ 25°C ~ +70°C														
Storage temperature	~ 25°C ~ +85°C														
humidity	5%~95%RH (No condensation)														
Waterproof and dustproof rating	IP67,EN60529														
Vibration resistant	2mm(f=5...29.5Hz),EN 60068-2-6 7 gn(f=29.5...150 Hz),EN 60068-2-6														
Conducted immunity (CS)	3V, Class A (including main frequency)						10V, Over class A (except main frequency)								
Electrostatic discharge immunity ESD	Contact discharge, 8KV, over class A Air discharge, 15KV, over class A IEC 61000-4-2														
product certification	FCC, CE														
ROHS directive	2011/65/EU, 2015/863/EU														

# RF-HZMT SERIES HIGH FREQUENCY PRECISION CARRIER

By adding or embedding RFID carriers into work-in-progress items, tooling fixtures, clamps, auxiliary parts, etc., and deploying RFID reading and writing equipment at automated node workstations, interaction with the work-in-progress items can be achieved. This enables a production method of multiple varieties on a large scale, achieving real-time automatic identification of individual products. It automatically connects automated equipment and robots, realizes personalized transmission of processes, defines parameters automatically, and supports scenarios of automated equipment inspection.



When used for automated assembly lines and tool management in machining, the carrier can be directly embedded into tools/fixtures and undergo dynamic balancing tests. The carrier stores information about the tools/fixtures, such as parameters of the tools and work-in-progress items, service life, etc. At the identification nodes, the reader can collect information about the tools/fixtures and work-in-progress items from the carrier, which is then processed by the backend system. This realizes full lifecycle management and automatic loading of machining processes.

## APPLICATION SCENARIO

- APPLICATION FIELD
- 3C (Computers, Communications, and Consumer Electronics)
  - New Energy
  - Home Appliances
  - Pharmaceuticals
  - Medical Equipment
  - Construction Machinery
  - Automotive
  - Military Industry
  - Rail Transit

## PRODUCT FEATURE

- The product has a small size, making it suitable for jigs/tools with strict size requirements.
- It has strong metal resistance, allowing for embedded metal installations.
- The product has a large storage capacity, making it convenient to store various management information.
- Using FRAM memory, it supports up to 100 billion read/write cycles.



## TECHNICAL PARAMETERS | SUPERSYS RF-HZMT SERIES

For the 3C industry's automated assembly lines, RFID readers are installed at each workstation, and RFID tags are mounted on the jigs/fixtures. The RFID tags are bound to the serial numbers of the production modules. Through RFID automatic identification, functions such as automatic work reporting, product quality tracing, and automatic off-lining of defective products are realized.

product model	RF-HZMTY80M-112	RF-HZMTY80M--2K	RF-HZMTY100M-112	RF-HZMTY100M--2K	RF-HZMTY1208M-112	RF-HZMTY1208M--2K
Product size						
working frequency	13.56MHz		13.56MHz		13.56MHz	
Air port agreement	ISO 15693		ISO 15693		ISO 15693	
Read distance	0~12mm(Reader-related)		0~12mm(Reader-related)		0~12mm(Reader-related)	
User memory	112 bytes	2000 bytes	112 bytes	2000 bytes	112 bytes	2000 bytes
Memory type	EEPROM	FRAM	EEPROM	FRAM	EEPROM	FRAM
Rewrite cycle	100,000 times	10 billion times	100,000 times	10 billion times	100,000 times	10 billion times
Data storage time	10 years		10 years		10 years	
size	Φ8*4.5mm		Φ10*4.5mm		11.8*7.8*4.5mm	
Housing material	PBT		PBT		PBT	
Fixed mode	Glue		Glue		Glue	
IP rating	IP68		IP68		IP68	
Operating temperature	-40°C~70°C		-40°C~70°C		-40°C~70°C	
Storage temperature	-40°C~125°C		-40°C~125°C		-40°C~125°C	
Metal resistance	Metal surface installation		Flush mounting with embedded metal		Flush mounting with embedded metal	

# RF-HZMT SERIES

## HIGH-FREQUENCY LONG-RANGE TAGS

APPLICATION FIELD

- 3C (Computers, Communications, and Consumer Electronics)
- New Energy
- Home Appliances
- Pharmaceuticals
- Medical Equipment
- Construction Machinery
- Automotive
- Military Industry
- Rail Transit



### TYPICAL CASE

It can be used for material sorting, workpiece identification, and mixed-flow production in the production line process control. The carrier is typically installed on pallets and containers, secured with M3 screws. The carrier can store information such as material details, workpiece codes, and processing techniques. At identification nodes, the reader can collect information from the carrier to be processed by the backend system, thereby achieving sorting, workpiece identification, and mixed-flow production control.

#### Identification in the manufacturing process:

This carrier belongs to a series of RFID carriers designed for the identification of precision products/tooling. It operates at a frequency of 13.56MHz and supports the ISO 15693 protocol. The carrier incorporates a high-performance antenna design. Both its design and production processes have undergone strict testing. Advanced manufacturing techniques are employed during its production, giving it features like resistance to metal interference, accurate read/write distance, high sensitivity, and consistent performance.

product model	RF-HZMTY200-112	RF-HZMTY200-2K	RF-HZMTY250-112	RF-HZMTY250-2K	RF-HZMTY300-112	RF-HZMTY300-2K	RF-HZMTY300M-112	RF-HZMTY300M-2K	RF-HZMTY500-112	RF-HZMTY500-2K
Product images										
working frequency	13.56MHz		13.56MHz		13.56MHz		13.56MHz		13.56MHz	
Air port agreement	ISO 15693		ISO 15693		ISO 15693		ISO 15693		ISO 15693	
Read distance	0~50mm(related to read head)		0~80mm(related to read head)		0~90mm(related to read head)		0~50mm(related to read head)		0~140mm(related to read head)	
User memory	112 bytes	2000 bytes	112 bytes	2000 bytes	112 bytes	2000 bytes	112 bytes	2000 bytes	112 bytes	2000 bytes
Memory type	EEPROM	FRAM	EEPROM	FRAM	EEPROM	FRAM	EEPROM	FRAM	EEPROM	FRAM
Rewrite cycle	100,000 times	10 billion times	100,000 times	10 billion times	100,000 times	10 billion times	100,000 times	10 billion times	100,000 times	10 billion times
Data storage time	10 years		10 years		10 years		10 years		10 years	
size	Φ20*3mm		Φ25*3mm		Φ30*4mm		Φ30*4mm		Φ50*3.5mm	
Housing material	PPS		PPS		PPS		PPS		PPS	
Fixed mode	Glue		Screw fixation		Screw fixation		Screw fixation		Screw fixation	
IP rating	IP67		IP67		IP67		IP67		IP67	
Operating temperature	-40~70°C		-40~70°C		-40~70°C		-40~70°C		-40~70°C	
Storage temperature	-40~105°C		-40~105°C		-40~150°C		-40~105°C		-40~150°C	
Metal resistance	Non resistant to metals		Non resistant to metals		Non resistant to metals		Anti-metal		Non resistant to metals	

# RF-HH SERIES

## HIGH FREQUENCY INDUSTRIAL MOBILE TERMINAL

APPLICATION FIELD

New energy  
household appliance  
Car

The RF-HH series handheld device is an extremely powerful high-performance industrial-grade Android terminal. It possesses functions such as one-dimensional/two-dimensional barcode scanning, Bluetooth communication, and electric infrared communication. It can be applied in industrial application fields like product traceability and production management. Furthermore, it can also be used in scenarios like water, electricity, and gas meter reading, measurement in the electricity industry, operation and maintenance data collection, on-site services, and data recording.



RF-HH184-AN



RF-HH165-AN

### PRODUCT FEATURE

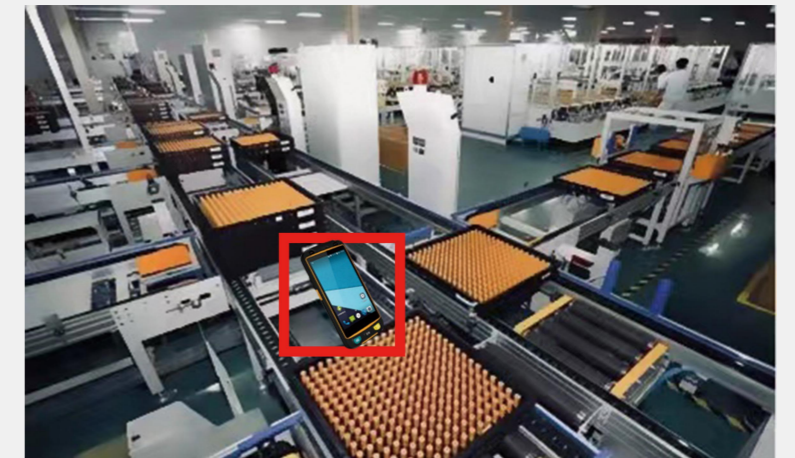
Octa-core CPU, efficiency increases by more than eight times. Running on the Android 6.0 system with an octa-core processor, its main frequency reaches up to 1.8GHZ, and it has a large memory capacity. With a 5.5-inch high-definition LCD screen, its top-tier performance significantly enhances operational speed.

4G universal network, smooth information exchange. 4G universal communication supports China Mobile, China Unicom, and China Telecom 4G communications. It also has 2.4G/5G dual-frequency, WiFi, and Bluetooth 4.1.

Industry-leading barcode engine, enjoy high-quality data collection. Supports 13.56MHz high-frequency RFID, compliant with ISO15693 and ISO14443 standards. It supports both one-dimensional and two-dimensional barcode scanning and has an 8-megapixel camera.

Comprehensive interfaces. Equipped with a TypeC communication interface, it can be expanded with RS232 and RS485. It supports TF cards, PSAM cards, and grid security encryption cards.

IP65 military-grade protection, effortless outdoor operations. Meeting IP65 industrial standards, it possesses excellent waterproof and dustproof capabilities, and it's protected against falls from 1.5 meters.



Suitable for production management in all walks of life, RF-HH series handheld supports barcode scanning and RFID; In the application, the production line can be completed by scanning the product code and then writing to the RFID tag binding, and the handheld can also be used to identify and record non-online product status information; The built-in operating system supports Wi F i/4G, which can independently carry out secondary development according to business needs, making the operation process more flexible and convenient, improving the production efficiency and quality traceability level of products, and making the production process information more transparent.

### TYPICAL CASE



product model	RF-HH184-AN	RF-HH165-AN
operating system	Android 6.0, support Chinese and English and other languages	
central processing unit	MTK MT6755M Cortex-A53 octa-core with a maximum frequency of 1.8GHz	
memory	RAM: 2GB DDR3(Optional 3GB/4GB)	RAM: 2GB DDR3
Flash memory	ROM: 16GB EMMC(Optional 32GB/64GB)	ROM: 16GB EMMC
LCD	5.5-inch high-definition high-brightness IPS screen, resolution 720*1280	4.0-inch high-definition high-brightness IPS screen, resolution 480*800, brightness above 350, backlight can be automatically adjusted
touch screen	Corning Gorilla III glass, capacitive screen 5-point touch	
keyboard	There are 3 function keys and 4 side keys, and it has a keyboard backlight function	Ordinary numeric keypad 0-9, *, #, scan key 1, function key 2, side key 2, switch key 1, with keyboard backlight function
sensor	Supports vibration motor, G-Sensor, light sensor, and electronic compass	
Wireless communication	Support China Mobile, China Unicom, China Telecom 4G full Netcom wireless network communication	Support China Mobile, China Unicom, China Telecom 4G full Netcom network, support dual SIM dual standby
Wi-Fi	IEEE 802.11a/b/g/n, supports 2.4G and 5G dual band, Wi-Fi can be disabled	IEEE 802.11a/b/g/n, supports 2.4G and 5G dual band, Wi-Fi can be disabled
Bluetooth	Bluetooth support V4.1, connection range 10m and above, support Bluetooth printing, Bluetooth communication	Bluetooth support V4.0+EDR, connection range 10m and above, support Bluetooth printing, Bluetooth communication
positioning	Support GPS and Beidou, horizontal positioning accuracy is less than 5m	Support GPS and Beidou, horizontal positioning accuracy is less than 10m, support A-GPS, first positioning less than 1 minute
Camera	8-megapixel HD camera with autofocus support and flash	
Barcode scanning	Support 1D barcode and 2D barcode scanning	
RFID	13.56MHz, supports ISO 15693 and ISO 14443A, Mifare support (S50 and S70 card read/write)	
TYPE C EXTENSION INTERFACE	Type C anti-fool plug interface 1 (support OTG, support device charging function, expandable RS232, RS485 interface)	Type C anti-fool plug interface 1 (expandable RS232, RS485 interface)
SIM card	SIM card slot x1	SIM card × 2
TF card	With Micro SD (TF) card slot (up to 128GB)	It has a Micro SD (TF) card slot (up to 64GB) and is compatible with the secure access platform of the power grid company
PSAM	PSAM card slot x2	PSAM Card ×2 (2 operator cards and salesman cards or ordinary PSAM cards for stamp hole modules)
Rechargeable batteries	High-capacity polymer battery, 5200mAh	High-capacity polymer battery, 3.8V/4000mAh
Form factor	183.9x88.4x27.2mm	165×73×24mm(34.5mm at the thickest point)
Machine weight	Less than 400g	Less than 300g
Operating temperature	-30~+55°C	-20~+60°C
Storage temperature	-30~+60°C	-40~+70°C
relative humidity	5%-95% (No condensation)	
Drop protection	1.5m, 6 sides	
Degree of protection	IP65(Waterproof and dustproof)	

High frequency series reading distance reference table



Reading distance unit (mm)	Recognition distance	RF-HC4820L	RF-HY18R	RF-HY18RE	RF-HY30R	RF-HY30RE	RF-HZ40L	RF-HZ50L	RF-HZ80L	RF-HZ100L	remark
RF-HZMTY80M-112/2K	M	6	8	4	8	4					Insert metal flush test Metal surface test
	E	<= 5	<= 6	<= 3	<= 6	<= 3					
	M	8	10	5	10	5					
RF-HZMTY100M-112/2K	E	<= 6	<= 8	<= 4	<= 8	<= 4					Insert metal flush test Metal surface test
	M	8	10	5	10	5					
	E	<= 5	<= 8	<= 4	<= 8	<= 4					
RF-HZMTC1208M-112/2K	M	12	15	8	18	10					Insert metal flush test Metal surface test
	E	<= 10	<= 12	<= 6	<= 14	<= 7					
	M	10	12	6	15	8					
RF-HZMTY200-112	E	<= 8	<= 10	<= 5	<= 12	<= 6					Insert metal flush test Metal surface test
	M	13	16	8	18	9					
	E	<= 10	<= 12	<= 6	<= 15	<= 8					
RF-HZMTY200-2K	M	34	36	18	50	25	65	63	68	76	Non-metal surface test
	E	<= 24	<= 25	<= 12	<= 35	<= 18	<= 45	<= 45	<= 48	<= 50	
	M	24	28	14	35	18	46	45	46	48	
RF-HZMTY220-112	E	<= 18	<= 20	<= 10	<= 25	<= 12	<= 32	<= 32	<= 32	<= 35	Non-metal surface test
	M	36	40	20	56	28	70	70	78	86	
	E	<= 25	<= 28	<= 14	<= 40	<= 20	<= 50	<= 50	<= 56	<= 60	
RF-HZMTY220-2K	M	28	30	15	40	20	52	50	54	56	Metal surface test
	E	<= 20	<= 22	<= 11	<= 28	<= 14	<= 36	<= 35	<= 36	<= 38	
	M	24	28	14	36	18	50	48	52	54	
RF-HZMTY220M-112	E	<= 16	<= 20	<= 10	<= 28	<= 14	<= 38	<= 36	<= 40	<= 40	Metal surface test
	M	18	22	11	30	15	42	40	43	45	
	E	<= 12	<= 15	<= 8	<= 20	<= 10	<= 30	<= 28	<= 30	<= 32	
RF-HZMTY250-112	M	40	44	22	58	28	78	75	90	96	Non-metal surface test
	E	<= 30	<= 32	<= 16	<= 45	<= 22	<= 60	<= 58	<= 68	<= 70	
	M	28	32	16	40	20	58	56	62	68	
RF-HZMTY250-2K	E	<= 20	<= 22	<= 11	<= 28	<= 14	<= 45	<= 44	<= 46	<= 50	Non-metal surface test
	M	44	48	24	62	32	86	78	94	100	
	E	<= 32	<= 35	<= 18	<= 42	<= 22	<= 60	<= 56	<= 72	<= 75	
RF-HZMTY300-112	M	40	42	21	58	28	78	72	82	90	Metal surface test
	E	<= 30	<= 30	<= 15	<= 42	<= 20	<= 58	<= 56	<= 60	<= 62	
	M	30	32	16	44	22	56	52	56	56	
RF-HZMTY300M-112	E	<= 20	<= 22	<= 11	<= 32	<= 16	<= 42	<= 40	<= 42	<= 42	Metal surface test
	M	20	24	12	34	17	45	42	45	46	
	E	<= 15	<= 18	<= 9	<= 25	<= 13	<= 32	<= 30	<= 32	<= 32	
RF-HZMTY300M-2K	M	60	62	32	84	42	110	100	140	143	Non-metal surface test
	E	<= 48	<= 48	<= 24	<= 65	<= 32	<= 80	<= 70	<= 100	<= 100	
	M	50	52	25	70	35	90	85	100	102	
RF-HZMTY500-2K	E	<= 40	<= 40	<= 20	<= 52	<= 25	<= 65	<= 60	<= 70	<= 70	

# RF-URD<sub>SERIES</sub>

## ULTRA HIGH FREQUENCY INTEGRATED READER/WRITER

APPLICATION FIELD

3C  
New energy  
Car



RF-URDZ276L



RF-URDZ100L



RF-URDZ85L-RTP

The RF-URD series product is an ultra-high-frequency integrated industrial-grade RFID reader/writer. With its compact size, low power consumption, stability, and reliability, combined with its easy installation method, it is especially suitable for assembly line workstations, warehouse logistics, AGV vehicle identification, and similar applications.

### PRODUCT FEATURE

- Built-in antenna, compact in size, easy to install, and convenient to use.
- Supports both active and passive reading modes, effectively saving reading energy consumption.
- Excellent anti-collision algorithm, with the highest tag recognition rate reaching 120pcs/s.
- Global Gen2 platform, adaptable to RFID application needs in different countries and regions.
- RF power output range is 10~26dBm, adjustable via software.
- Superior reception sensitivity, reaching up to -69dBm.



During the car production process, unique coding IDs (like the VIN code) are written into the RFID carriers. By using RFID readers installed at each assembly step, it's possible to trace the materials, production line positions, production process statuses, and other information of car parts throughout the entire production process. This allows for mixed-flow production and error prevention in processing and assembly, thereby greatly enhancing production efficiency.

### SCENARIO APPLI

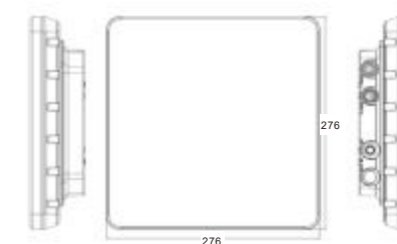
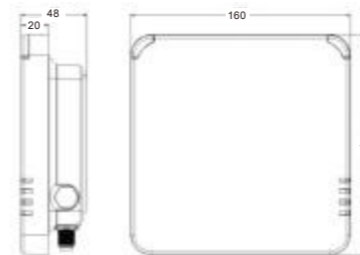
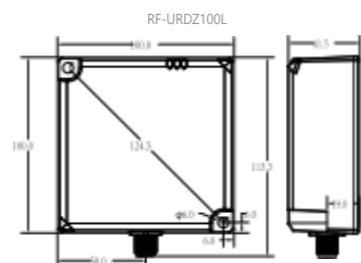
**SUPERSYS**  
TECHNICAL PARAMETERS  
**RF-URD**<sub>SERIES</sub>



**SUPERSYS**  
TECHNICAL PARAMETERS | **RF-URD**<sub>SERIES</sub>



product model	RF-URDZ100L-R4	RF-URDZ100L-TP	RF-URDZ160L-R4	RF-URDZ160L-TP	RF-URDZ276L
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wireless protocol	ISO 18000-6C (Class 1 Gen 2)		ISO 18000-6C (Class 1 Gen 2)		ISO 18000-6C(Class 1 Gen 2)GB/T29768、GJB7377.1
working frequency	China Frequency:920-925 MHz (SRRC) North American Frequency:902-928MHz (FCC Part 15)		China Frequency: 920-925 MHz (SRRC) North American Frequency: 902-928 MHz (FCC Part 15)		CHN:920MHz~925MHz FCC:902MHz~928MHz; ETSI:865MHz~868MHz; JPN:916MHz~920MHz
output power	5-27dBm adjustable, 1dBm steps		35dBm±1dB(MAX) in 1dB steps		
Communication interface	RS485		RS485		Fria Agrimente, RS-232, RS-485
Communication protocol	MODBUS RTU	MODBUS TCP	MODBUS RTU	MODBUS TCP	
Communication rate	9600~115200bps	10/100M Adaptive	9600~115200bps	10/100M Adaptive	
Supply voltage	9~30VDC		9~30VDC		9-30V DCPOE: IEEE802.3bt standard
Average current	<0.2A@24VDC				30W(Output power 35dBm)
Light	5LED indicators		6 LED indicators		6 LED lights
Form factor	100*100*41.5mm		160*160*48mm		276*276*70mm
Fixed type	2×M5		With 4 M4 threaded holes		4 x M6 screws
Housing material	Aluminum alloy+ABS		Aluminum alloy+ABS		Aluminum + engineering plastics
Shell color	black		black		white
Total weight	280g				
Operating temperature	-25℃~+60℃		-25℃~+60℃		-25℃~+60℃
Storage temperature	-25℃~+85℃		-40℃~+85℃		-40℃~+85℃
humidity	5% ~ 95%RH( No condensation)		5% ~ 95%RH( No condensation)		10% ~ 95%RH( No condensation)
Protection grade	IP65, EN 60529		IP65, EN 60529		IP65, EN 60529
Anti vibration	2mm(f=5...29.5Hz) ,EN60068-2-6 7gn(f=29.5...150Hz) ,EN60068-2-6				
Electrostatic discharge immunity ESD	Contact discharge, 8KV, over class A / air discharge, 15KV, over class A				
FCC	FCC PART15		FCC PART15		SRRC,FCC,CE



# RF-US<sub>SERIES</sub>

## ULTRA HIGH FREQUENCY AND HIGH-PERFORMANCE MULTI-CHANNEL READER/WRITER

APPLICATION FIELD

Logistics industry



RF-US170-4ANT-TP



RF-US240-4ANT-TP

The RF-US series product is a high-performance ultra-high-frequency 4-channel reader/writer. It operates at a frequency of 902-928MHz and supports the ISO 18000-6C (Class1 Gen2) protocol. With its excellent performance design, comprehensive product testing mechanism, and outstanding heat dissipation design, the product can maintain superior performance while working stably for extended periods, making it suitable for logistics applications across various industries

### PRODUCT FEATURE

- The industry's most advanced Impinj R2000 radio frequency chip, a unique multi-tag recognition algorithm, and a dual-CPU architecture design give the product outstanding performance.
- Supports hardware freeze monitoring, radio frequency amplifier status monitoring, antenna connection status detection, and multi-point board temperature detection.
- Excellent anti-collision algorithm, with the highest tag recognition rate reaching 700pcs/s.
- RF power output range is 0~33dBm, adjustable via software.
- Superior reception sensitivity, reaching up to -85dBm.

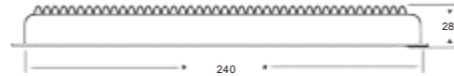
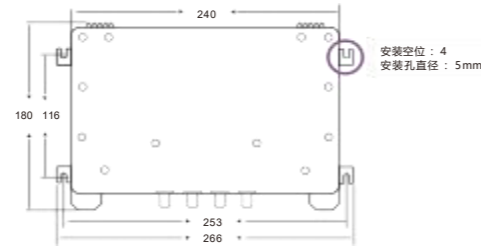


**Automotive Industry Warehouse Management System:**  
Centered around the warehousing management, in-stock management, and outbound management of automotive parts, it achieves automated, rapid, and accurate collection and association of automotive parts information. This system provides automatic warehousing, outbound operations, and inventory check functionalities, aiming to track, monitor, and trace automotive parts throughout every step of logistics management. This ensures transparency of in-stock information, a controllable process, and integrates the logistics and information flow of automotive enterprises, enhancing the overall operational efficiency.

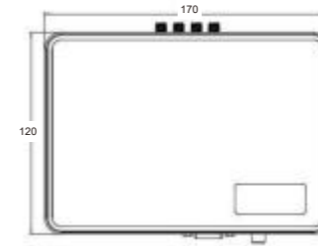
### SCENARIO APPLI



product model	RF-US240-4ANT-TP	RF-US170-4ANT-TP
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size



size		170*120*25.2mm
weight		0.5 Kg
Body material	Aluminum alloy	
Input voltage	DC 12V~18V	DC 9V~30V
Standby current	<80mA	
Maximum operating current	700mA +/-5% @ DC 12V Input	
Operating temperature	-20°C~+85°C	-25~60°C
Storage temperature	-20°C~+85°C	-40~85°C
Operating humidity	<95%(+ 25°C)	5% ~ 95%RH(Non-condensing)
Air Interface Protocol	EPC global UHF Class 1 Gen 2/ISO 18000-6C/ISO 18000-6B	
Operating spectrum range	902-928MHz	CHN: 920MHz~925MHz FCC: 902MHz~928MHz; ETSI: 865MHz~868MHz
Output power	0-33dBm	0-30dBm±1dB in 1dB steps
Output RF connector	TNC/RP-TNC	SMA
Output power accuracy	+/- 1dB	
Output power flatness	+/-0.2dB	
Receive sensitivity	<-85 dBm	
Inventory label peak speed	> 700 shots/sec	> 400 times/sec
Label buffers	1000 labels @ 96 bit EPC	/
Label RSSI	In the tank	-
Antenna connection protection	In the tank	-
Ambient temperature monitoring	In the tank	/
Working mode	Stand-alone // intensive	Frequency hopping/fixed frequency is configurable
Communication interface	RS-232 & TCP/IP	Ethernet, RS-232
baud rate	115.2Kbps or 10/100M adaptive	
GPIO	2 input optocoupling 2 output optocoupled	2 relay outputs/2 optocoupler inputs

# RF-UZMT SERIES

## UHF HIGH-TEMPERATURE RESISTANT CARRIER

This series of carriers is primarily used for RFID identification of precision products and jigs. Its operating frequency is 902-928MHz and supports the ISO 18000-6C protocol. The carrier incorporates a high-performance antenna design. Both its production and design processes have undergone strict testing. Advanced manufacturing techniques have been adopted during its production, endowing it with features such as high-temperature resistance, anti-metal interference, accurate read/write distance, high sensitivity, and consistent performance



### APPLICATION SCENARIO

The UZMT ultra-high-frequency carrier is primarily suitable for industrial applications in high-temperature, long-distance, anti-metal, and complex outdoor environments. Application scenarios can be divided into:

- Embedded installation in the threading of metal work-in-progress items.
- High-temperature resistant embedded installation on the surface of mold carriers.
- Installation applications on outdoor vehicle surfaces, characterized by stable identification and strong sensitivity.



product model	RF-UZMTY16MT-H3	RF-UZMTC4022MT-H3	RF-UZMTC4838MT-H3	RF-UZMTC4129MT-U8	RF-UZMTY22MT-H3	RF-UZMTC6035MT-8K
Air Protocol Protocol	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2
Operating frequency	902~928 MHz	920~925 MHz	920~925 MHz	902~928 MHz	902~928 MHz	902~928 MHz
chip	Alien H3	Alien H3	Alien H3	NXP UCODE 8	Alien H3	Impinj Monza X-8k
EPC memory size	96 bits	96 bits	96 bits	128 bits	96 bits	128 bits
USER memory size	512 bits	512 bits	512 bits	0 bits	512 bits	8k bits
Size(mm)	29*25*25mm(M16 screw)	42*20*8mm	48*38*10mm	41*29*9mm	Φ28.5*8mm	60*35*6.1mm
Housing material	304 stainless steel	metal	High temperature resistant materials	PEEK	304 stainless steel	aluminium
Installation method	Comes with M16*1.0 mounting screw	Screw fastening	Screw fastening	Screw fastening	Embedded installation	Screw fastening
IP rating	IP68	IP68	IP68	IP68	IP68	IP68
weight	15g	15g	10g	15g	15g	15g
Operating temperature	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C
Storage temperature	-40°C~150°C	-40°C~180°C	-40°C~180°C	-40°C~230°C (+260°C1500小时)	-40°C~180°C	-40°C~180°C
Metal resistance	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal
other				Resistant to strong acids and alkalis (PH0-PH14)		

# RF-UZMT<sup>SERIES</sup>

## ULTRA HIGH FREQUENCY AND HIGH-PERFORMANCE ANTI METAL CARRIER

APPLICATION FIELD

Vehicle and work-in-process  
identification for logistics

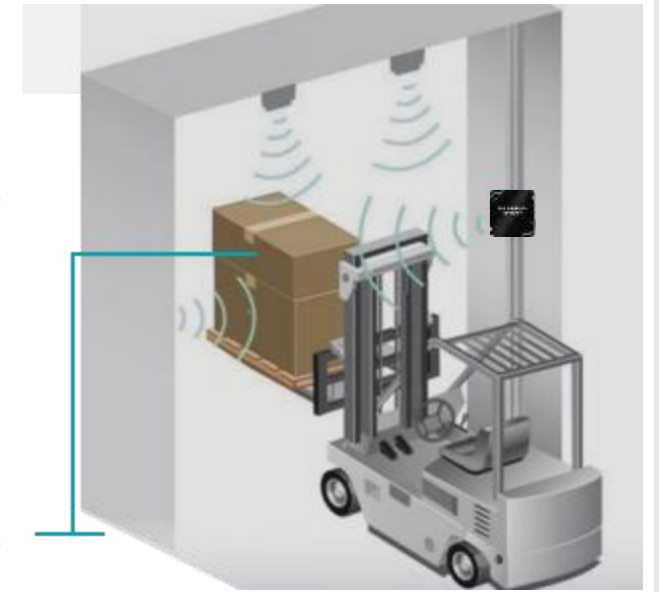
- Operates at a frequency of 902-928MHz and supports the ISO 18000-6C protocol.
- Utilizes PCB technology, ensuring a balance of stability and performance, facilitating broad integration.
- Suitable for harsh conditions with oil contamination, dust, humidity, and salt spray

### PRODUCT FEATURE

This series of carriers is primarily used for RFID identification of pallets/load carriers/containers. Its operating frequency is 902-928MHz and supports the ISO18000-6C protocol. The carrier is equipped with a high-performance built-in antenna. Both its design and production processes have undergone strict testing. Advanced manufacturing techniques have been adopted during its production, giving it features such as anti-metal interference, accurate read/write distance, high sensitivity, and consistent performance

### APPLICATION SCENARIO

**Application Scenario: Logistics and Warehousing Industry**  
RFID carriers are embedded into logistics carriers and pallets. Before the start of the logistics process, an RFID reader is used to write the material model and logistics node information into the RFID carrier. At every node position in the logistics process, an RFID reader is installed to automatically read the RFID carrier, capturing item and process information from the logistics process. Once the logistics process is completed, data is transmitted to the Logistics Execution System (LES) and Warehouse Management System (WMS), thereby achieving information traceability and intelligent error prevention throughout the entire logistics process. This greatly enhances logistics efficiency and the transparency of the logistics process



product mode	RF-UZMTC6923M-U8	RF-UZMTC8724M-U8	RF-UZMT10330M-U8	RF-UZMTC12922M-H3	RF-UZMTC6604M-H3	RF-UZMTC6015M-H3	RF-UZMTC8015M-H3	RF-UZMTC1305M-R6	RF-UZMTC2309M-R6
Product images									
Air Protocol Protocol	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2	ISO 18000-6C Class 1 Gen 2
Operating frequency	902~928 MHz	840~940 MHz	902~928 MHz	902~928 MHz	902~928 MHz	902~928 MHz	902~928 MHz	902~928 MHz	920~925 MHz
chip	NXP UCODE 8	NXP UCODE 8	NXP UCODE 8	Alien H3	Alien H3	Alien H3	Alien H3	Impinj Monza R6	Alien H3
EPC memory size	128 bits	128 bits	128 bits	96 bits	96 bits	96 bits	96 bits	96 bits	96 bits
USER memory size	0 bits	0 bits	0 bits	512 bits	512 bits	512 bits	512 bits	32 bits	512 bits
Size(mm)	69*23*7mm	87*24*11mm	103*30*7.5mm	129*22.4*10mm	66*4*3mm	60*15*3mm	80*15*3mm	13*4.5*2mm	23*9*3mm
Housing material	PC+ABS	PC	PC+ABS	PC	FR4	FR4	FR4	ceramics	ceramics
Installation method	Screw fixing (M5*2 mounting hole)	Screw fixing (M5*2 mounting hole)	Screw fixing (M5*2 mounting hole)	Screw fixing (M3*2 mounting hole)	3M adhesive backing	3M adhesive backing	3M adhesive backing	3M adhesive backing	3M adhesive backing
IP rating	IP67	IP67	IP67	IP66	IP65	IP65	IP65	IP65	IP65
weight	11g	19g	26g	18g	1.5g	6g	8g	1.5g	3.5g
Operating temperature	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C	-25°C~85°C
Storage temperature	-40°C~80°C	-40°C~80°C	-40°C~80°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C
Metal resistance	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal	Anti-metal

# RF-UH<sub>SERIES</sub>

## ULTRA HIGH FREQUENCY INDUSTRIAL MOBILE TERMINAL

APPLICATION FIELD

Logistics process  
Rail transportation  
Aerospace



RF-UH178



RF-UH160



RF-UH209

The RF-UH series handheld device is a high-performance industrial IoT device based on the Android operating system. With its strong data collection and processing capabilities, a variety of wireless communication interfaces, and superior standby capability, it can meet the logistical business needs of various industries.

### PRODUCT FEATURE

- High-performance computing platform  
Powerful hardware configuration ensures smooth operation of applications like massive data computation and real-time 3D hardware display.
- Industrial-grade components  
All components are industrial-grade or military-grade, ensuring continuous and stable operation even in harsh environments.
- Extended battery life  
Large capacity lithium polymer battery, magazine-style battery hot swap system, making replacement quick and easy, ensuring uninterrupted battery life.
- Top-tier UHF RFID engine  
Employs a module based on the self-developed ImpinilIndyR2000 chip, which is renowned in the industry for its performance and reliability, offering excellent stability and extremely powerful multi-tag recognition capabilities.
- Superior protective performance  
With an IP64 protection level, it can effectively resist dust and splashing liquids

Logistics and Warehouse Industry:

The RF-UH smart handheld terminal is a wireless portable device that integrates RFID radio frequency technology with a data terminal. It features large storage capacity, extended usage time, a variety of communication and expansion interfaces, and its hardware modules can be selected according to different needs. Additionally, the software can be fully customized based on user requirements. It is widely used in warehouse management processes such as inventory check-in, material shelving, stock-taking, material check-out, and retrieval queries. It addresses the challenges of time-consuming and labor-intensive material searches, and the time-consuming and error-prone processes of checking in and out of stock. This device enables rapid inventory counting and shortens the time required for warehouse staff to perform stocktaking



### SCENARIO APPLI



Product model	RF-UH160	RF-UH167	RF-UH209	RF-UH178
size	160*82*129mm	167*82*129mm	209mm*139mm*20mm	178*83*17mm
Physical parameters	Dimensional weight	580g(with battery/standard)		620g
	Body material	CNC aviation aluminum, PC+ABS (SABIC)		/
Configure parameters	operating system	Android 6.0		Android 5.1
	CPU	CPU quad-core Cortex-A17/clock speed up to 1.8GHz		MSM8 core 1.5GHz
	RAM+ROM	RAM+ROM 2G+32G 4G+64G		Type: MTK 6763-8 core Speed 2.0GHz
	display screen	5.0 inches / resolution 1280*720/IPS/180 degree viewing angle		Resolution 1280*800
	touch screen	1.1mm thickened tempered glass / 10 point touch / glove operation		7" capacitive touch screen
	power supply	6000mAh rechargeable lithium polymer battery		3.7V 7000mAh rechargeable lithium battery
	USB interface	Micro USB/MOLEX connector/10,000 plug life		5 pin MicroUSB, OTG support
Environmental adaptability	Usage environment	-20°C~+60°C		-10°C~ +50°C
	Storage temperature	-30°C~+70°C		-40°C~ +60°C
	Ambient humidity	5%RH~95%RH, non-condensing		Humidity: 95%Non-Condensing
	Degree of protection	IP64		IP64
	Fall seismic height	Resistant to natural drops of 2 meters		Resistant to natural falls of 1.2 meters
Protocol standards	EPC Global UHF Class1Gen 2/ISO18000-6C/ISO 18000-6B		EPC C1 Gen2/ISO 18000-6C	
Data acquisition	Operating frequency	902~928MHz,865~868MHz		840-960MHz (customized according to the required frequency band) China; 920-925MHz USA: 902-928MHz Europe: 865-868MHz
	Output power	0~33dBm		10dBm-30dBm
	Reading distance	> 10 meters	> 7 meters	< 6 meters
Wireless communication	Image acquisition	13 million pixels/autofocus/with flash		2 million front, 8 million pixels rear/autofocus/with flash
	Barcode	2D barcode		2D barcode
	WiFi	Supports IEEE802.11b/g/n protocol		Supports IEEE 802.11b/g/n/a
	Bluetooth	Bluetooth 4.0		Bluetooth 4.0
4G	In the tank		In the tank	

# IACM-PX<sub>SERIES</sub>

## RFID BUS COMMUNICATION MODULE

APPLICATION FIELD

3C  
New energy  
Car



The IACM-PX series bus module is an RFID controller that offers standard industrial bus protocols, supporting ProfiNet, EtherCAT, EtherNet/IP, and MODBUS TCP protocols. It includes two M12 T-CODE power supply interfaces, two M12 D-CODE 4-PIN bus interfaces, and either 2 or 4 M12 A-CODE RFID reader and writer interfaces. The housing is made of a sturdy zinc alloy material, featuring wide connection range, strong communication capability, good environmental adaptability, and a high level of protection

### PRODUCT FEATURE

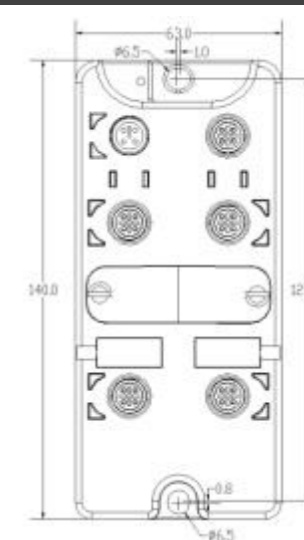
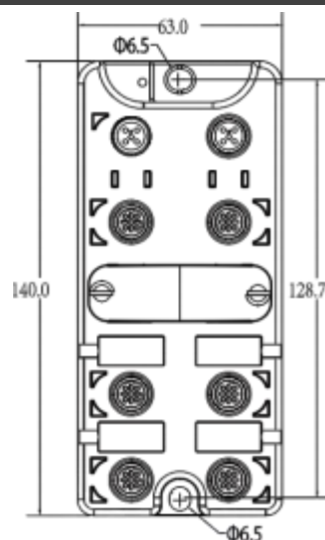
- Supports ProfiNet, EtherCAT, EtherNet/IP, and MODBUS TCP protocols.
- Can connect multiple RFID readers/writers to work independently simultaneously.
- IP67 protection level, capable of adapting to harsh conditions like oil contamination, dust, and humidity.
- Dual network ports, integrated with switch function, can form star-type and tree-type networks.
- Power input features reverse connection protection and 3000W surge protection; the RFID port has anti-reverse and overvoltage/overcurrent protection



The IACM-PX series bus module can be used in conjunction with RFID in the manufacturing process of the 3C and new energy industries. After identifying the carrier through RFID, it transmits the information to the controller, achieving workpiece identification, recording of inspection results, automatic work reporting, mixed-flow production, etc., greatly improving production efficiency and product quality.

### SCENARIO APPLI

Product model	IACM-P4-PN	IACM-P4-ECT	IACM-P4-EIP	IACM-P4-EN	IACM-P2-PN	IACM-P2-ECT	IACM-P2-EIP	IACM-P2-EN
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Physical parameters	Product size	140.0 * 63.0 * 31.4mm							
	Housing material	Zinc alloy							
power supply	Rated voltage	18~30VDC							
	Rated current	I <sub>max</sub> ≤0.3A@24V(Bus module own current)							
	Power supply mode	Independent dual power supply (system power UB, load power UL)							
	Power connector	T-CODE male/female 4 pins							
	Power protection	With reverse polarity protection, 3000W surge protection							
communication	Communication protocol	ProfiNet	EtherCAT	Ethernet/IP	MODBUS TCP	ProfiNet	EtherCAT	EtherNet/IP	MODBUS TCP
	Network interface	Both network ports have integrated switch functions and comply with IEE802.3 standards			Single network port	Both network ports have integrated switch functions and comply with IEE802.3 standards			Single network port
	Communication interface	D-CODE M12 female, 4-pin			D-CODE M12 female, 4-pin (ETH1)	D-CODE M12 female, 4-pin			D-CODE M12 female, 4-pin (ETH1)
	Communication cable length	Max=100m							
RFID port	System topology	Star structure, tree structure			Star structure	Star structure, tree structure			Star structure
	Number of RFIDs	4 independent channels				2 independent channels			
	RFID interface	A-CODE M12 female, 5-pin							
	Load capacity	V <sub>OUT</sub> =24V±20%,L <sub>OUT</sub> ≤0.7A							
	Circuit protection	Power supply anti-reverse polarity, overvoltage and overcurrent protection							
Environmental adaptability	Troubleshooting	Supports troubleshooting							
	Operating temperature	-25°C~+70°C							
	Storage temperature	-40°C~+85°C							
	Degree of protection	IP67							
Product certification	CE/RoHS 2.0								



# CR-HCseries

## Handheld codereader

### HANDHELD CODE READER

APPLICATION FIELD

Automation industry  
 Warehousing and logistics industry  
 Medical industry  
 Retail industry

Use CR-HC400

High quality CMOS sensor can realize the reading of large depth of field interval while ensuring fast reading, and the reading ability of inferior barcode is also greatly improved



### PRODUCT FEATURE

- High quality CMOS sensor, strong code reading ability
- HD lens, not afraid of complex surfaces
- Super protective ability, 50 drops of 1.2M
- Support industry, business and a wide variety of environments
- Compact design

CR-HC400



### APPLICATION SCENARIO

application scenarios

model	CR- HC400
Size (mm)	163 (width) x106 . 2 (height) x69 .4 (depth)
weight	147. 5g
shell material	PC
voltage	5VDC+5% , 380mA
power dissipation	1.9W
frame rate	Global Shutter CMOS 60fps
pixel	1280x1024
focal length	fixed focus
angle	Level: 44 °; Vertical 34 °
light source	White LED (optional red and blue LED)
Interface support	RS232, USB standard protocol
support 1D barcode	Code 128, Code 39, Code 93, Code 11 Matrix 2 of 5 , Interleaved 2 of 5 . Coda bar, MSI Plessey, GS1 Data Bar, China Postal, UPC, EANetc.

Support 2D barcode  
 PDF 417, Micro PDF417 , Data Matrix, Maxi code, QR code , MicroQR , Aztec Hanxin, etc.

Minimum precision support	≥4mil
temperature range	Operating temperature :0 ~45 ° C, storage temperature: -10 ~ 50 ° C
humidity range	5 ~85%(no condensation)
Artificial optical immunity	100000LUX
level of protection	IP54
Radio frequencyimmunity	IEC6100 -4 - 3 , 10V/ m
antiknock characteristic	Can withstand the impact of multiple normal drops to the concrete floor at a height of 1.2 meters (allowed deflection 5 ")
authentication	CE , FCC , RoHS , ISO9000 , ISO9001



# CR-HC series

Stationary code reader

## FIXED CODE READER

APPLICATION FIELD

Automation industry  
 Warehousing and logistics industry  
 Medical industry  
 Retail industry

### PRODUCT FEATURE



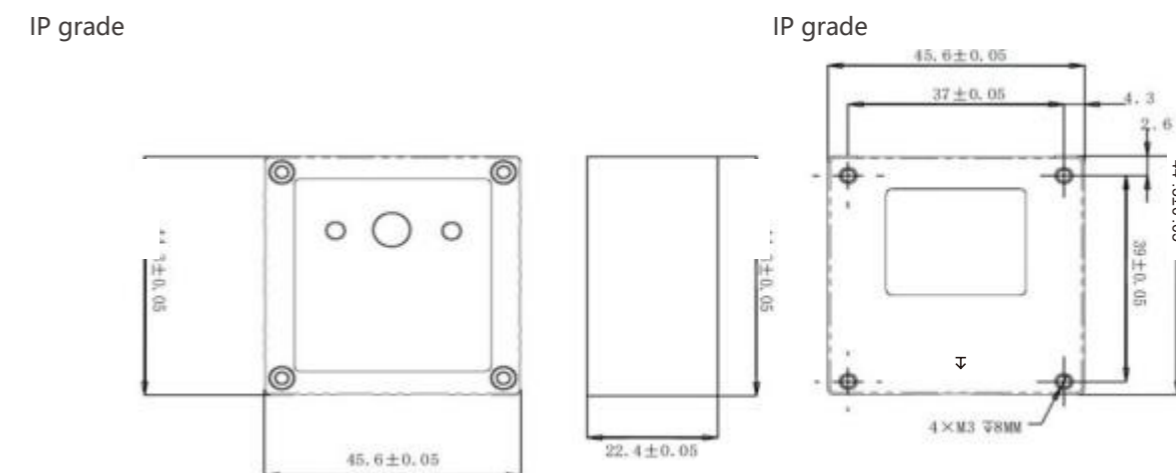
- Full code compatible
- Compatible with DPM codes
- Supports multiple communication methods
- With Aim aiming, easy to locate the bar code
- OK/ NG indicator prompts for intuitive judgment reading



### APPLICATION SCENARIO

application scenarios

model	CR-HC551
Size (mm)	45.6 (width) x 44.3 (height) x 22.4 (depth)
weight	180g
power supply mode	5 - 24V DC +/- 10% , 500mA
power dissipation	peak < 2.5W, average 2W
function module	Dome illumination
system architecture	ARM926
Image data format	JPEG
Sensor type	Global Shutter CMOS
software	Fixed reading 1D, QR code, reading challenging 1D/QR code, including DPN
focal length	fixed focus
resolution ratio	WVGA 1280* 1024
frame rate	60 fps
Image color	mono
secondary light source	8 high brightness LED
interface type	RS232, USB-keyboard, USB-com , Ethernet
Motion tolerance	1m/s
Recognition accuracy	min.4mil
Read code system	1D code: Code 128, Code 39, Code 93, Code 11, Matrix 2 of 5, Interleaved 2 of 5, Coda bar, MSI Plessey, GS1 Data Bar, China Postal, UPC, EAN etc. 2D code: PDF 417 , Micro PDF417 , Data Matrix, Maxi code, QR code, MicroQR, Aztec, Hanxin, etc.
temperature	Operating: 0 ° C to 45° C, Storage: -10 C to 50° C
humidity	5% to 85% relative humidity no condensing



# CR-HCseries

Stationary code reader

## FIXED CODE READER

APPLICATION FIELD

Automation industry  
 Warehousing and logistics industry  
 Medical industry  
 Retail industry

### PRODUCT FEATURE

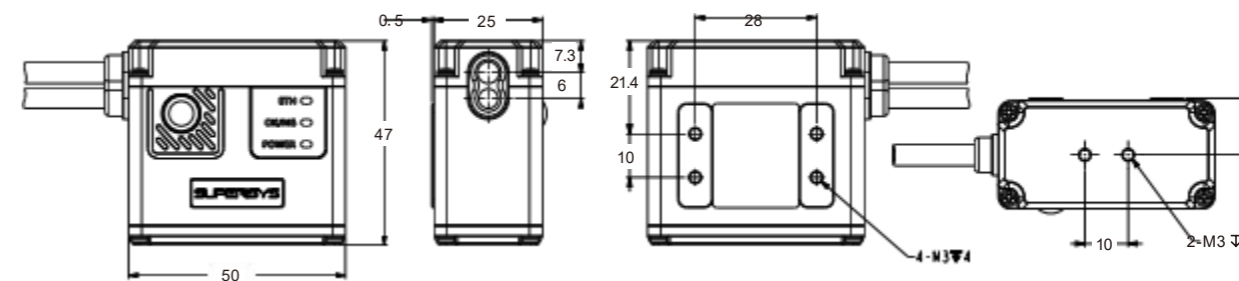
- Full code compatible
- Compatible with DPM codes
- Minimum 2mil small bar code can be read
- Support automatic adjustment
- Comes with cable,RJ45 connector
- Multiple sets of parameters, better deal with mixed line production
- Supports multiple communication methods
- Support Modbus, PN and other communication protocols
- Double-sided installation holes, arbitrary installation
- With Aim aiming point, easy to locate the bar code
- OK/ NG indicator to visually determine whether to read
- IP54 protection class
- Withstand the impact of 1.5M drop to the concrete floor (5 ° deflection allowed)



### APPLICATION SCENARIO

application scenarios

model	CR-HC601S-05R03	CR-HC601S-05R07	CR-HC601S-05R10	CR-HC601S-05R15
size	50(width) ×47(height) × 25.5 (depth)			
weight	223g			
Power supply mode	5 - 30V DC +/- 10%, 500mA			
power dissipation	peak <2 . 5W, average 2W			
function module	Dome illumination			
system architecture	ARM926			
Image data format	JPEG			
Sensor type	Global Shutter CMOS			
software	Fixed reading 1D/QR codes, reading challenging 1D/QR codes, including DPM			
focal length	30mm	70mm	100mm	150mm
resolution ratio	WVGA 1280*800			
frame rate	60 fps			
Image color	mono			
interface type	4 high brightness LED			
interface type	RS232, USB-virtual-COM, USB-keyboard , Ethernet			
Motion tolerance	1m/s			
Recognition	min. 2mil			
Read code system	1D code: Code 128, Code 39, Code 93, Code 11, Matrix 2 of 5, Interleaved 2 of 5, Coda bar, MSI Plessey, GS1 Data Bar, China Postal, UPC, EAN etc. 2D code: PDF 417, Micro PDF417, Data Matrix, Maxi code, QR code, MicroQR, Aztec, Hanxin , etc.			
temperature	Operating: -30 ° C to 60 ° C, Storage: -40 ° C to 70 ° C			
humidity	0% to 90% relative humidity no -condensing			
IP grade	IP54			



# CR-HC series

Stationary code reader

## FIXED CODE READER

APPLICATION FIELD

Automation industry  
 Warehousing and logistics industry  
 Medical industry  
 Retail industry

### PRODUCT FEATURE

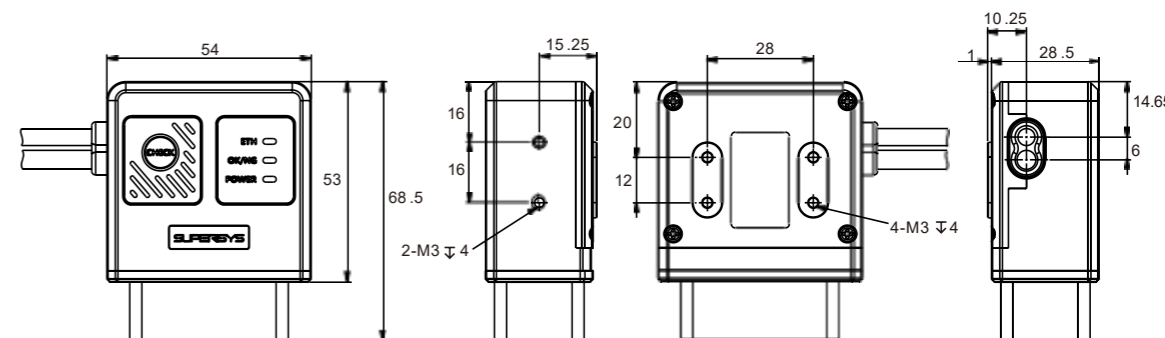
- New upgrade, better performance, better decoding ability
- Vericode code compatibility
- Enhanced image contrast with high light LED
- Multiple sets of parameters, better deal with mixed line production
- Modular installation, support to change the M-port lens
- IP65 rating
- A variety of customization solutions, supporting various scenarios
- Supports a variety of communication methods, Support Modbus, PN, MC, EthernetIP protocols



### APPLICATION SCENARIO

application scenarios

model	CR-HC701X-05R	CR-HC701X-16R	CR-HC701X-06RA	CR-HC701X-12RA
size	54(width) × 68.5 (height) × 29.5 (depth)			
weight	250g			
Power supply mode	5 - 30V DC +/- 10%, 500mA			
power dissipation	peak <2.5W, average 2W			
system architecture	ARM926			
Image data format	JPEG			
Sensor type	Global Shutter CMOS			
software	Fixed reading 1D/QR codes, reading challenging 1D/QR codes, including DPM			
focal length	5mm lens fixed focal length	16mm lens fixed focal length	6mm lens auto zoom	6mm lens auto zoom
resolution ratio	WVGA 1280*800			
frame rate	60 fps			
Image color	mono			
interface type	8 high brightness LED			
interface type	RS232, USB-virtual-COM, USB-keyboard , Ethernet			
Motion tolerance	2m/s			
Recognition	min. 2mil			
Read code system	1D code: Code 128, Code 39, Code 93, Code 11, Matrix 2 of 5, Interleaved 2 of 5, Coda bar, MSI Plessey, GS1 Data Bar, China Postal, UPC, EAN etc. 2D code: PDF 417, Micro PDF417, Data Matrix, Maxi code, QR code, MicroQR, Aztec, Hanxin , etc.			
temperature	Operating: -30 ° C to 60 ° C, Storage: -40 ° C to 70 ° C			
humidity	0% to 90% relative humidity no -condensing			
IP grade	IP65			



# CR-HC series

Stationary code reader

FIXED  
CODE READER

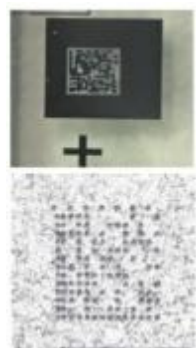
APPLICATION FIELD

- Automation industry
- Warehousing and logistics industry
- Medical industry
- Retail industry



## PRODUCT FEATURE

### Powerful decoding ability



- Full code compatibility, fast reading of various bar codes, support Ve ricode code



- For dot code, DPM code strengthens reading, and high recognition rate helps intelligent manufacturing

- Supports multiple sets of parameters, Support multiple code system mixed line reading

- Optional accessories such as polarization, better cope with different reflective conditions red, blue and white three color LED to cope with more application environments

SUPERISYS

TECHNICAL PARAMETERS

CR-HC series

### Excellent application adaptation

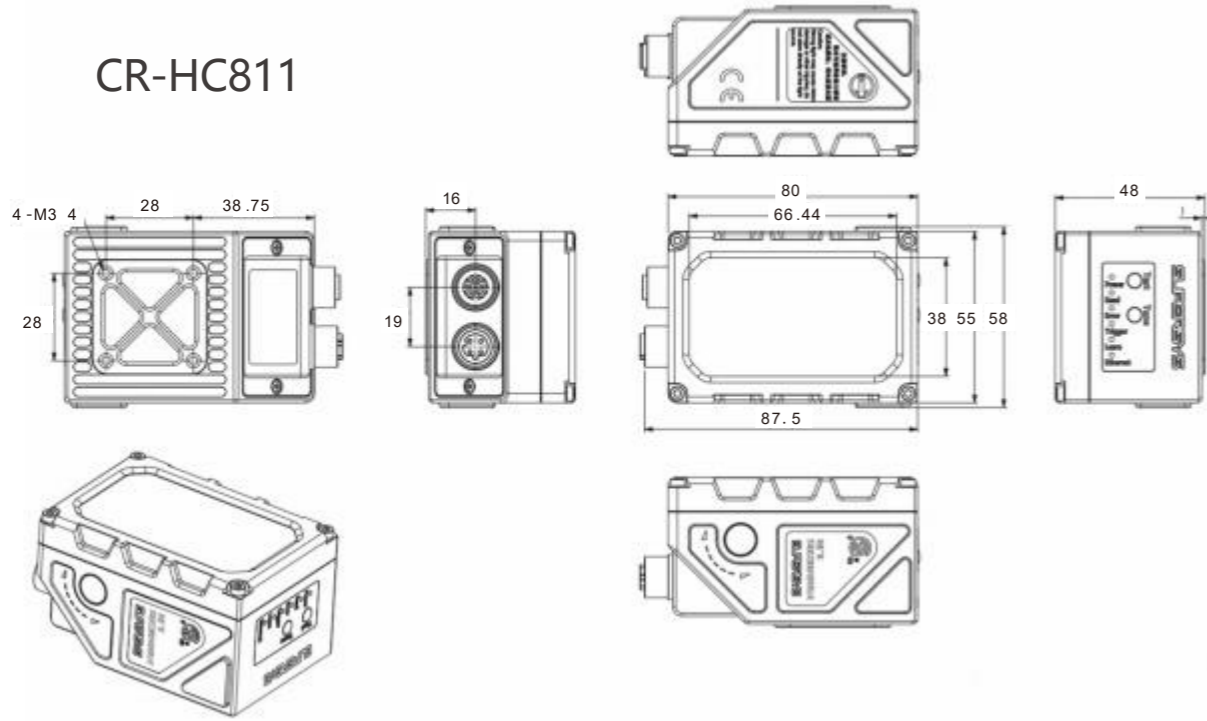
- Supports a variety of lens customization It can realize close-range large field of view reading or remote small bar code reading
- Support Modbus, PN, EIP and other protocols Support networking easy to achieve multiple reader control Diversified I/O interfaces to meet various input and output requirements of customers IP65 protection rating Meet all kinds of harsh working conditions Can withstand multiple 1.5M height normal drop (allow deflection 5°)
- Support M-port lens expansion, the minimum can achieve 0.2mm barcode reading optional liquid lens, automatic adjustment of focus

model	CR-HC811X-06RA	CR-HC811X-12RA	CR-HC812X-06RA	CR-HC812X-12RA	CR-HC815X-06RA	CR-HC815X-12RA
Sensor type	Global shutter CMOS image sensor					
resolution ratio	1280x1080		1280x1080		2592x1944	
colour	black and white					
frame rate	120fps		108fps		45fps	
hostprocessor	4x1.6GHz main frequency Cortex-A53					
coprocessor	800MHz Cortex-M7					
Machinelearning visionprocessor	2.3TOPS NPU					
light source	Red and white optional, 32 high-lighted leds					
input voltage	24V DC +10%					
power	<5W					
import	2 optical coupling isolated inputs, support NPN, PNP access mode					
output	3 optical coupling isolated output, support NPN, PNP, switch control mode					
serial port	RS232C, RS485, support no protocol, ModBus RTU protocol					
Ethernet	100 and Gigabit Ethernet (optional), supporting TCP/IP, Modbus TCP, EthernetIP, Profinet, and Melsec					
2D	DataMatrix, QR code, MicroQR, Vericode, Maxicode, PDF417, etc.					
1D	Code 128, Code 39, Code 93, Code 11, Interleaved 2 of 5, Codabar, GS1 DataBar, UPC, EAN, etc.					
minimum resolution	0.08mm	0.05mm	0.08mm	0.05mm	0.06mm	0.04mm
Field Angle	Horizontal :31° Vertical: 26°	Horizontal :16° Vertical: 13°	Horizontal :49° Vertical: 32°	Horizontal :27° Vertical: 17°	Horizontal :49° Vertical: 38°	Horizontal :26° Vertical: 20°
lens	6.21mm lens	12mm lens	6.21mm lens	12mm lens	6.21mm lens	12mm lens
300mm long working distance	160*140mm	80*70mm	270*170mm	140*90mm	270*200mm	140*100mm
Distance window	60~600mm	75~600mm	60~600mm	75~600mm	60~600mm	75~600mm
size	93mmx55mmx50mm					
weight	About 240g					
operating temperature	-10°C~+50°C					
storage temperature	-20°C~+70°C					
humidity	5% to 95% no condensation					
5% to 95% no condensation	IP65					

**PRODUCT SIZE DRAWING**

Product size drawing

**CR-HC811**



■ 3C electron

Mobile phone parts assembly and accessories production and manufacturing help to achieve every production link can be traced



■ photovoltaic industry

Dynamic identification bar code, record solar panel radium engraving code reading



■ package and transport

Combination of forklift identification and positioning bar code for pickup

We identify electrical transportation for production traceability

**APPLICATION SCENARIO**

application scenarios

**LENS REFERENCE**

Shot referenc

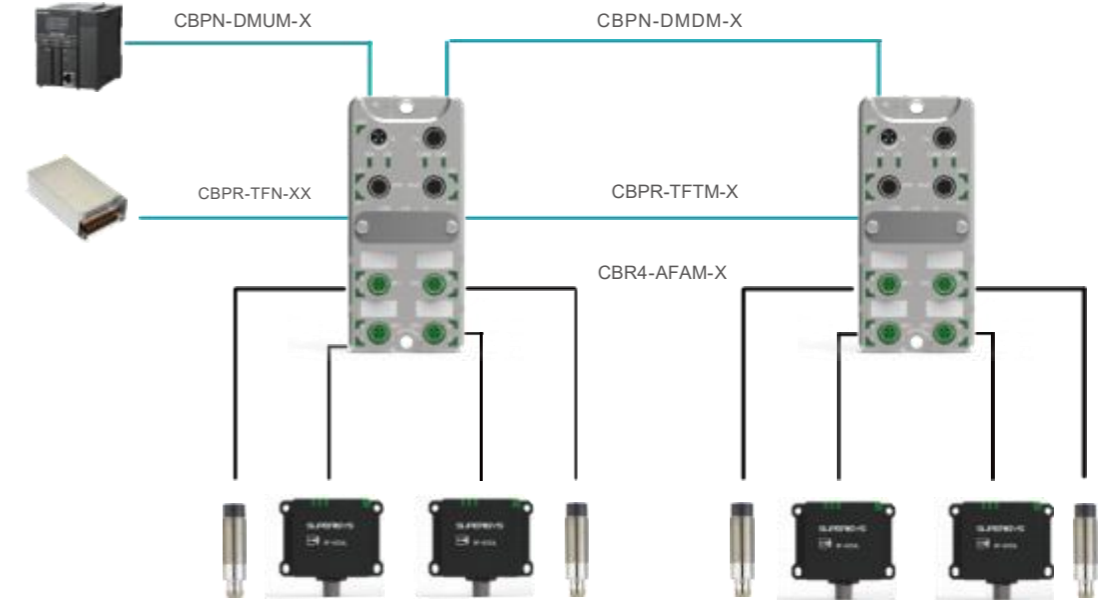
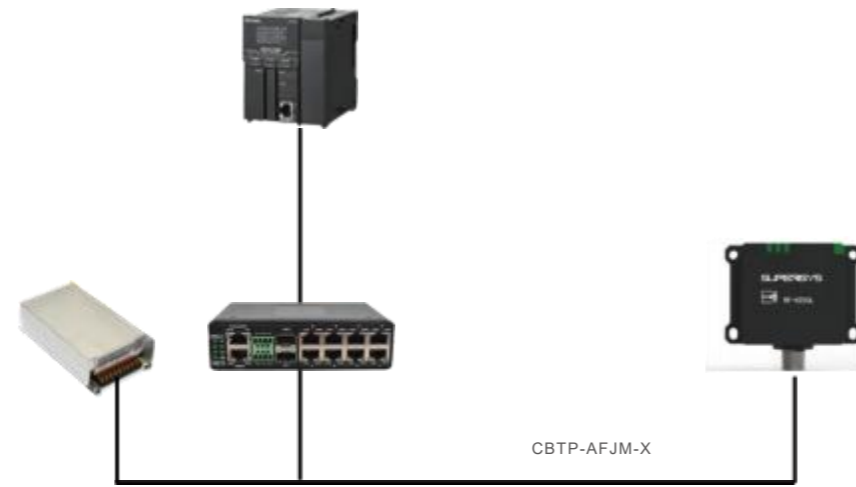
		Recognition	6mm mounting distance	12mm mounting distance
130W	1D	3mil	60mm-86mm	75mm-160mm
		5mil	60mm-140mm	75mm-280mm
		7.5mil	60mm-280mm	75mm-420mm
	2D	5mil	60mm-90mm	75mm-180mm
		7.5mil	60mm-140mm	75mm-280mm
Reference field of view	10mil	60mm-190mm	75mm-370mm	
			Installation distance 60mm field of view 33mmx28mm	Installation distance 75mm Field of view 22mmx18mm
130W	1D	3mil	60mm-79mm	75mm-1500mm
		5mil	60mm-130mm	75mm-250mm
		7.5mil	60mm-190mm	75mm-380mm
	2D	5mil	60mm-80mm	75mm-160mm
		7.5mil	60mm-130mm	75mm-250mm
Reference field of view	10mil	60mm-170mm	75mm-250mm	
			The installation distance is 60mm Field of view 56mmx35mm	Installation distance 75mm Field of view 36mmx25mm
130W	1D	3mil	60mm-100mm	75mm-200mm
		5mil	60mm-170mm	75mm-340mm
		7.5mil	60mm-260mm	75mm-560mm
	2D	5mil	60mm-110mm	75mm-220mm
		7.5mil	60mm-180mm	75mm-340mm
Reference field of view	10mil	60mm-230mm	75mm-460mm	
			Installation distance 60mm Field of view 55mmx41mm	Installation distance 75mm Field of view 36mmx27mm

Line 5 Use schematic diagram

# Plug-in connectors

## CABLE SERIES PRODUCTS

### ATTACHMENT



Product name	Double-ended pre-cast RS485 cable	Double-ended pre-cast RS485 cable	TCP cable	TCP cable	Bus cable	Bus interconnect cables	Bus module power cable	Bus module power interconnect cable
Product images								
Product model	CBR4-AFAM-03	CBR4-AFAM-03-RA	CBTP-AFJM-03	CBTP-AFJM-03-RA	CBPN-DMJM-03	CBPN-DMDM-03	CBPR-TFN-03	CBPR-TFTM-03
length	3 meters	3 meters	3 meters	3 meters	3 meters	3 meters	3 meters	3 meters
Connector type	M12A type female straight head - M12A type male straight head	M12A female elbow- M12A type male straight head	M12A type female straight head - RJ45 male head	M12A female elbow - RJ45 male head	M12D male straight head - RJ45 male head	M12D type male straight head - M12D type male straight head	M12T type female straight head-loose wire	M12T type female straight head - M12T type male straight head
Number of pins	5	5	8	8	4	4	4	4
Cable outer diameter	5MM	5MM	7MM	7MM	6MM	6MM	10MM	10MM
Core size	24AWG	24AWG	2P+2C (20AWG)	2P+2C (20AWG)	24AWG	24AWG	24AWG	24AWG
Cable material	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
Operating temperature	-25°C~80°C	-25°C~80°C	-25°C~80°C	-25°C~80°C	-25°C~80°C	-25°C~80°C	-25°C~80°C	-25°C~80°C
Other specifications	5 meters : CBR4-AFAM-05 10 meters : CBR4-AFAM-10	5 meters : CBR4-AFAM-05-RA 10 meters : CBR4-AFAM-10-RA	5 meters : CBTP-AFJM-05 10 meters : CBTP-AFJM-10	5 meters : CBTP-AFJM-05-RA 10 meters : CBTP-AFJM-10-RA	5 meters : CBPN-DMJM-05 10 meters : CBPN-DMJM-10	5 meters : CBPN-DMDM-05 10 meters : CBPN-DMDM-10	5 meters : CBPR-TFN-05 10 meters : CBPR-TFN-10	5 meters : CBPR-TFTM-05 10 meters : CBPR-TFTM-10

# IACM - IOL<sub>SERIES</sub>

IOLINKMaster station module

## IOLINK MASTER MODULE



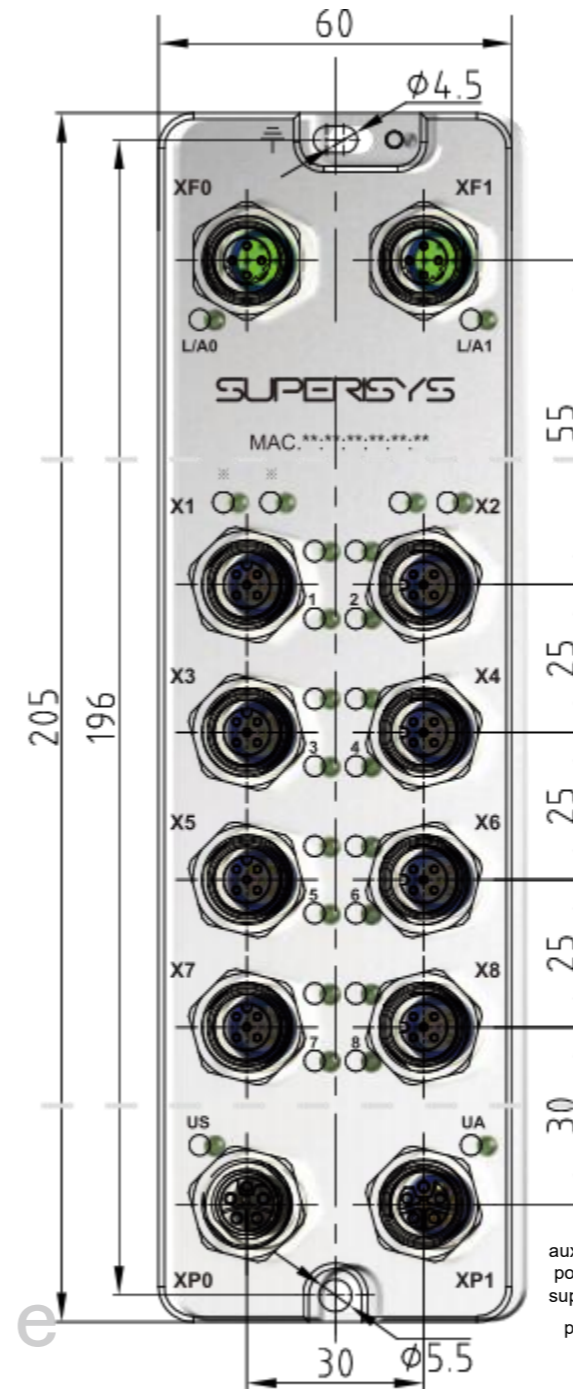
Master station module

### Application area

APPLICATION FIELD

- Automation industry
- Light industry
- Chemical engineering
- CARS
- steel
- tobacco
- metallurgy
- aviation
- War industry
- semiconductor
- printing
- package
- And a variety of general machinery and other fields

## 8-port series



### Data port pin definition

connection type	2×M12 D-code; 4- core hole seat;	XF0, XF1
physical layer	Ethernet	
transmission speed	10/100 Mbps, full duplex	
character	Conforming to protocol characteristics	
warning function	Diagnostic alarm, process alarm	
Minimum cycle time	1ms	
communication port tightening torque	M12:0.5Nm	1. TX+ 2. RX+ 3. TX- 4. RX-

### Underlying parameter

shell material	aluminium alloy
shell color	Metallic silver primary color
level of protection	IP67, epoxy full potting
boundary dimension	205mm×60mm×34.4mm
weight	515g
operating temperature	-25°C...70°C
Storage/transport temperature	-40°C...85°C
operation humidity	5%..95%
Storage/transport humidity	5%..95%
Operating atmosphere	80KPa...106KPa
Preserve/transport atmospheric pressure	80KPa...106KPa
I/O port tightening torque	M12:0.5Nm
application environment	Conforms to EN-61131
vibration measurement	Conforms to IEC60068-2
impact test	Conforms to IEC60068-27
Free drop test	Conforms to IEC60068-32
Electromagnetic Compatibility (EMC) authentication	Conforms to IEC61000-4-2,-3,-4
CE, RoHS	
Mounting hole specification	44.5mmx1;Ø5.5mmx1

### Auxiliary power port pin definition


Power connection mode	M12, 5-core, L-code, male/female	XP0	XP1
System power supply voltage us	18...30 VDC(type.24VDC)		
Auxiliary power supply voltage ua	18...30 VDC(type.24VDC)		
Total current Is	12A		
Total current Ia	12A		
Static working current Ic	≤150mA		
Power reverse protection	have		
Power port tightening torque	M12:0.5Nm		
Male		Female	
		1. +24V_Us	
		2. GND_Ua	
		3. GND_Us	
		4. +24V_Ua	
		5. FE	





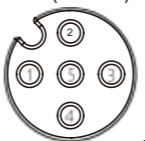
communication protocol	model	product description	I/o connection mode
EtherCAT	IACM-IOLM8A-ECT	IO-LINK master station module 8classA port IP67 level of protection	M12, 5pinHole seat A coding
PROFIBUS DP	IACM-IOLM8A-PN		
EtherNet/IP	IACM-IOLM8A-EIP		
Parameters of the IO-Link master station			
A maximum of 8 ports can be configured		Port voltage L+	type.24VDC (via Us)
Primary station connection mode	M12, 5-core, A-code, female head	Port current L+	2A (via Us)
IO-link version	v1.1.2	classA	8mouth X1..X8
Communication rate	COM 4.8KBPS	Master station - slave station communication distance	≤20meter
	COM2 : 38.4KBPS		
	COM3: 230.4KBPS	Master station -master station communication distance	≤ 100meter
Digital input and output parameters			
Input quantity	8-way adaptive	Output quantity	8-way adaptive
Input port location	X1...X8	Output port location	X1...X8
Input polarity	PNP	Input polarity	PNP
Signal "O" voltage	-0.3...5VDC	current output	Single Channel 2A (via UA)
Signal "1" voltage	12...30VDC	Port protection	Power short circuit protection, power port overload protection
incoming current	type.5mA (vi aus)		
Module indicator			
Ethercaagreement		profiNetagreement	
PWR	Green: The power supply to the module is normal Red The power supply of the module is reversed		
I/O	Green: The channel signal is normal Red port power supply is short-circuited		
LINK	Green link normal Yellow flash: The link is normal and the data communication is normal Extinguish link not established		
RUN	Green. P state Green Slow blinking: The SAFEOP is in the state	SF	Red: The module is faulty
	Green Quick blinking The pre-OP status	red	internal error
ERR	Off: indicates the Init state	BF	Red blinking: Device name / IP address/ The module group status is incorrect
	Red blinking: A communication error occurs Off: The module is working properly		NS
IO-LINK	Green: Port operation running) status Green fast blinking: The port is being connected to an incorrect device Green Slow blinking The port is in the pre-operation state Green Off: The port is closed		

Pin definition of the I/O port

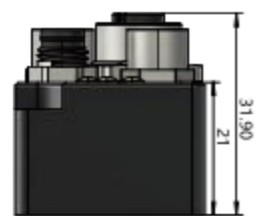
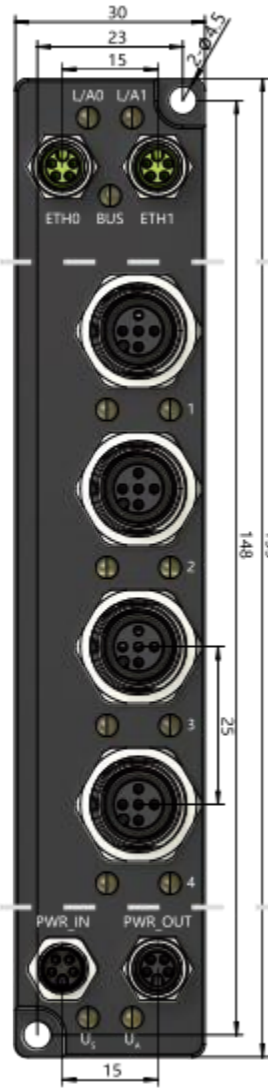
port	Stitch definition M12(X1~X8)	Address distribution	
		Byte	0
M12 A-code female connector		1. V+	X1P2
		2. In/output	X2P2
		3. ov	X3P2
		4 .C/Q	X4P2
		5. N/C	X5P2
			X6P2
			X7P2
			X8P2

communication protocol	model	product description	I/o connection mode
EtherCAT	IACM-IOLM4A4B-ECT	IO-LINK master station module 4ClassA port 4ClassB port IP67 level of protection	M12, 5pinHole seat A coding
PROFIBUS DP	IACM-IOLM4A4B-PN		
EtherNet/IP	IACM-IOLM4A4B-EIP		
Parameters of the IO-Link master station			
Number of ports at the main station		The maximum value can be 8	Port voltage L+
Primary station connection mode		M12, 5-core, A-code, female head	Port current L+
IO-link version		v1.1.2	ClassB auxiliary voltage
Communication rate	COM 4.8KBPS	classB auxiliary current	type.24VDC (via UA)
	COM2 : 38.4KBPS		
	COM3: 230.4KBPS	class A	4mouth X1..X4
		class B	4mouth X5..X8
Master station - slave station communication distance	≤20meter	Master station communication distance	≤ 100meter
Digital input and output parameters			
Input quantity	4-way adaptive	Output quantity	4-way adaptive
Input port location	X1...X4	Output port location	X1...X4
Input polarity	PNP	Input polarity	PNP
Signal "O" voltage	-0.3...5VDC	current output	Single Channel 2A (via UA)
Signal "1" voltage	12...30VDC	Port protection	Power short circuit protection, power port overload protection
incoming current	type.5mA (via us)		
Module indicator			
Ethercaagreement		profiNetagreement	
PWR	Green: The power supply to the module is normal Red The power supply of the module is reversed		
I/O	Green: The channel signal is normal Red port power supply is short-circuited		
LINK	Green link normal Yellow flash: The link is normal and the data communication is normal Extinguish link not established		
RUN	Green. P state Green Slow blinking: The SAFEOP is in the state	SF	Red: The module is faulty
	Green Quick blinking The pre-OP status	red	internal error
ERR	Off: indicates the Init state	BF	Red blinking: Device name / IP address/ The module group status is incorrect
	Red blinking: A communication error occurs Off: The module is working properly		NS
IO-LINK	Green: Port operation running) status Green fast blinking: The port is being connected to an incorrect device Green Slow blinking The port is in the pre-operation state Green Off: The port is closed		

/O Port pin definition

port	Stitch definition M12(X1~X8)	Stitch definition	
		Byte	0
M12 A-code female connector		1. V+	X1p2
		2. In/output	X2P2
		3.0 V	X3P2
		4 .C/Q	X4P2
		5. N/C	X5P2
			X6P2
			X7P2
			X8P2

# 4-port Series



Data port pin definition		
connection type	2xM8A-code; 4- Core hole seat	ETH0, ETH1
physical layer	Ethernet	
transmission speed	10/100 Mbps. Full duplex	
character	Conforming to protocol characteristics	
warning function	Process alarm	
minimum cycle time	1ms	
Communication port tightening torque	M8:0.5Nm	

M8A-code  
Indicates the female end



- 1. TX+
- 2. RX+
- 3. RX-
- 4. TX-

underlying parameter	
shell material	aluminium alloy
shell color	Sorption black
level of protection	IP67, epoxy full potting
boundary dimension	155mmx30mmx31.9mm
weight	208g
operating temperature	-25°C...70°C
Storage/transport temperature	-40°C...-85°C
operation humidity	5%...95%
Storage/transport humidity	5%...95%
Operating atmosphere	80KPa...106KPa
Preserve/transport atmospheric pressure	80KPa...106KPa
I/O port tightening torque	M12:0.5Nm
application environment	Conforms to EN-61131
vibration measurement	Conforms to IEC60068-2
impact test	Conforms to IEC60068-27
Free drop test	Conforms to IEC60068-32
Electromagnetic Compatibility (EMC)	Conforms to IEC61000-4-2,-3,-4
authentication	CE,RoHS
Mounting hole specification	φ4.5mmx2

Auxiliary power port pin definition		
Power connection mode	M8, 4-core, A-code, female & Male	
System power supply voltage us	18...30 VDC(type.24VDC)	
Auxiliary power supply voltage ua	18...30 VDC(type.24VDC)	
Total current Is	4A	
Total current Ia	4A	
Static working current Ic	≤150mA	
Power reverse protection	have	
Power port tightening torque	M8:0.5Nm	

Auxiliary power port



- Male Female
- 1. +24V\_Us
  - 2. +24V\_Ua
  - 3. GND\_Us
  - 4. GND\_Ua

M8A-code  
Female and male ends

communication protocol	model	product description	I/O connection mode
<b>EtherCAT</b>	<b>IACM-IOLM4A-ECT</b>	IO-LINK master station module 4 Class A port 1P67 protection rating	M12, 5pin hole seat, A code
<b>PROFINET</b>	<b>IACM-IOLM4A-PN</b>		
<b>EtherNet/IP</b>	<b>IACM-IOLM4A-EIP</b>		

IO Link Parameters of the primary station			
Number of ports at the main station	A maximum of 8 ports can be configured	Port voltage L+	type.24VDC (wia Us)
Primary station connection mode	M12, 5-core, A-code, female head	Port current L+	2A(wia Us)
IO-link version	V1.1.2	Class A	4, X1.X4
Communication rate	COM1:4.8KBps	Master station - slave station communication distance	≤20meter
	COM2:384KBps COM3:230.4KBps	Master station - master station communication distance	≤100meter

Digital input and output parameters			
Input quantity	4 way, adaptive	Output quantity	4 way, adaptive
Input port location	x1...x4	Output port location	X1...X4
Input polarity	PNP	Input polarity	PNP
Signal "0" voltage	-0.3..5VDC	current output	Single Channel 2A(via UA)
Signal "1" voltage	12...30VDC	Port protection	Power short circuit protection, power port overload protection
incoming current	type.5mA(via Us)		

Module indicator			
	EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol
<b>PWR</b>		Green: The power supply to the module is normal Red: The power supply of the module is reversed	
<b>L/A0</b> <b>L/A1</b>		Green: The physical connection is normal Green blinking: The extension communication is normal	
<b>I/O</b>		Green: The channel signal is normal Red: The port power supply is short-circuited	
<b>BUS</b>	Green: indicates the op status Green Slow blinking: The SAFEOP is in the state Green fast blinking: The Pre-op status is displayed Off: indicates the Init state Blinking red and green: A communication error occurs	<b>BUS</b> Off: The module is working properly Red: The module is faulty Blinking red: The device name or IP address is incorrect	<b>BUS</b> Green: The module is working properly Blinking green: The module is not configured or communication is not established Blinking red: The devicename or IP address is incorrect
<b>IO-LINK</b>		Green: indicates the port operation (running) status Green fast blinking: The port is being connected to an incorrect device Green Slow blinking: The port is being pre-operated Green Off: The port is closed	

I/o port pin definition												
port	<b>Stitch definition</b> M12(X1~X4)  <b>Class A</b> 1. V+ 2. In/Output 3. 0 V 4. C/Q 5. FE	<b>Address distribution</b> <table border="1"> <tr> <td>Byte</td> <td>0</td> </tr> <tr> <td>Bit0</td> <td>X1P2</td> </tr> <tr> <td>Bit1</td> <td>X2P2</td> </tr> <tr> <td>Bit2</td> <td>X3P2</td> </tr> <tr> <td>Bit3</td> <td>X4P2</td> </tr> </table>	Byte	0	Bit0	X1P2	Bit1	X2P2	Bit2	X3P2	Bit3	X4P2
Byte	0											
Bit0	X1P2											
Bit1	X2P2											
Bit2	X3P2											
Bit3	X4P2											
M12 A-code female connector												

# IACM - Dx - IOL series

IO LINK digital quantity slave station module

## IOLINK SLAVE MODULE

### APPLICATION FIELD

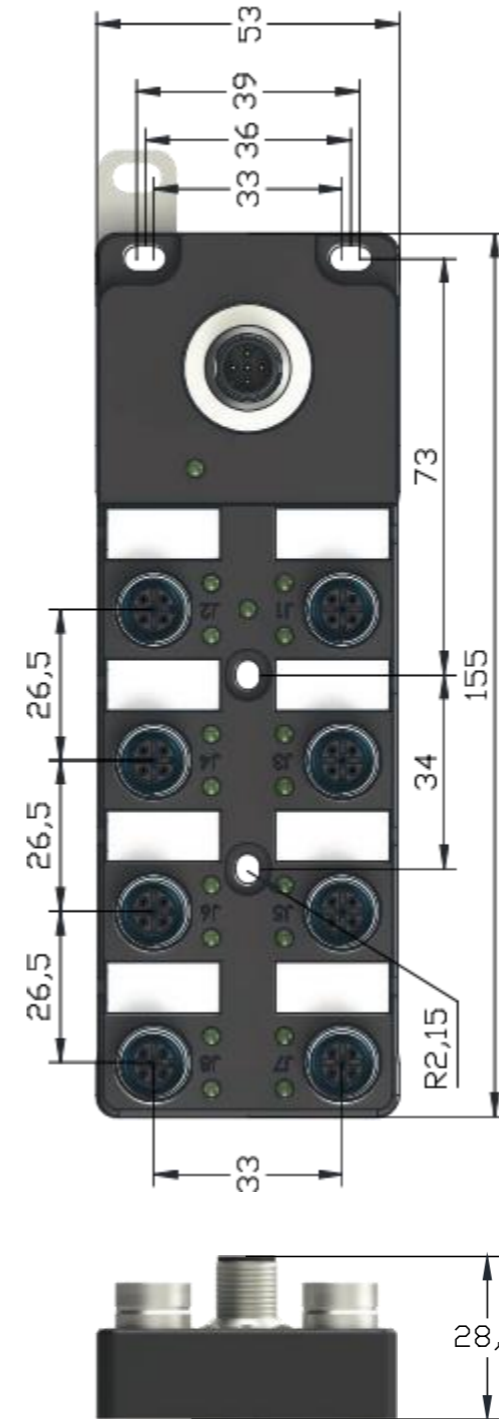
- Automation industry
- light industry
- chemical engineering
- automobile
- steel
- cigarettes and tobacco
- metallurgy
- aviation
- war industry
- semiconductor
- printing
- packaging
- And a variety of general machinery and other fields



Slave module



## 16 channels digital /8 channels analog input/output series



### Data port pin definition

IO-LINK 端口 针脚定义	IO-LINK M12 MALE	1. V+ 2. P24V 3. 0 V 4. C/Q 5. N/C

### underlying parameter

shell material	PA6+GF
shell color	black
level of protection	IP67, epoxy full potting
boundary dimension	155mm×53mm×28.7mm
weight	217g
operating temperature	-25°C...70°C
Storage/transport temperature	-40°C85°C
operation humidity	5%..95%
Storage/transport humidity	5%...95%
Operating atmosphere	BOKPa.....106KPa
Preserve/transport atmospheric pressure	BOKPa.....106KPa
I/O port tightening torque	M12:0.5Nm
application environment	Conforms to EN-61131
vibration measurement	Comply with IEC60068-2
impact test	Comply with IEC60068-27
White by drop test	Comply with IEC60068-32
Electromagnetic Compatibility (EMC)	Comply with IEC61000-4-2-3,-4
authentication	CE RoHS
Mounting hole specification	φ4.3mm×4

IO-Link	polarity	model		product description	I/O connection mode
Class A	PNP	IACM-DI16P-IOL	IACM-DO16P-IOL	IO-LINK slave module 8x port IP67 protection rating	M12, 5pin hole seat, A code
		IACM-DI16PR-IOL	IACM-DO16PR-IOL		
	NPN	IACM-DI16N-IOL	IACM-DO16N-IOL		
		IACM-DI16NR-IOL	IACM-DO16NR-IOL		

**IO-Link slave station parameters**

IO-Link Indicates the number of ports	1 × device	
IO-Link Processes the data length	2 input bytes	
Minimum cycle	3 ms	
<b>Input. Output parameters</b>		
Input. Output quantity	16 input	
rated operational voltage	18...30V DC	
Maximum load current (sensor)	200 mA	
Maximum load current (actuator)		500 mA
Total current UI	<1.6A	
Total current UO	<2.5A	
<b>Module indicator</b>		
IO-LINK RUN	Green: The communication is down	
	Green flash: Normal communication	
	Red: Communication is interrupted	
PWR	Green: The power supply to the module is normal	Green: The power supply to the module is normal
	Off: The module power supply is not connected	Yellow: The auxiliary power supply is not connected
I/o	Green: The channel signal is normal	
	Red: The port is faulty	

**I/O port pins are fixed**

端口	M12(J1~J8)		M12(J1~J8)	
	PNP	NPN	PNP	NPN
M12 A-code 母端	<b>Input</b>	<b>Input</b>	<b>Output</b>	<b>Output</b>
	1. 24 VDC+	1. 24 VDC+	1. N/C	1. 24VDC+
	2. Input	2. Input	2. Output	2. Output
	3. 0 V	3. 0 V	3. 0 V	3. N/C
	4. Input	4. Input	4. Output	4. Output
	5. FE	5. FE	5. FE	

**Address distribution**

Byte	1		0	
	J1P4	J5P4	J1P4	J5P4
Bit0	J1P4	J5P4	J1P4	J5P4
Bit1	J1P2	J5P2	J1P2	J5P2
Bit2	J2P4	J6P4	J2P4	J6P4
Bit3	J2P2	J6P2	J2P2	J6P2
Bit4	J3P4	J7P4	J3P4	J7P4
Bit5	J3P2	J7P2	J3P2	J7P2
Bit6	J4P4	J8P4	J4P4	J8P4
Bit7	J4P2	J8P2	J4P2	J8P2

IO-Link	polarity	model		product description	I/O connection mode
Class A	PNP	IACM-DIO16P-IOL	IACM-DI8PDO8P-IOL	IO-LINK slave module 8x port IP67 protection rating	M12, 5pin hole seat, A code
		IACM-DIO16PR-IOL			
	NPN	IACM-DIO16N-IOL	IACM-DI8NDO8NR-IOL		
		IACM-DIO16NR-IOL			

**IO-Link slave station parameters**

IO-Link Indicates the number of ports	1 × device	
IO-Link Processes the data length	2 input bytes	1 input byte
	2 output bytes	1 output byte
Minimum cycle	3 ms	
<b>Input. Output parameters</b>		
Input. Output quantity	16-way adaptive	8 inputs and 8 outputs
rated operational voltage	18...30V DC	
Maximum load current (sensor)	200 mA	
Maximum load current (actuator)	500 mA	
Total current UI	<1.6A	
Total current UO	<2.5A	
<b>Module indicator</b>		
IO-LINK RUN	Green: The communication is down	
	Green flash: Normal communication	
	Red: Communication is interrupted	
PWR	Green: The power supply to the module is normal	
	Off: The module power supply is not connected	
I/o	Green: The channel signal is normal	
	Red: The port is faulty	

**I/O port pins are fixed**

端口	M12(J1~J8)		M12(J1~J8)	
	PNP	NPN	PNP	NPN
M12 A-code 母端	<b>Input/Output</b>	<b>Input/Output</b>	<b>Input</b>	<b>Output</b>
	1. 24 VDC+	1. 24 VDC+	1. 24 VDC+	1. N/C
	2. Input/Output	2. Input/Output	2. Input	2. Output
	3. 0 V	3. 0 V	3. 0 V	3. N/C
	4. Input/Output	4. Input/Output	4. Input	4. Output
	5. FE	5. FE	5. FE	5. FE

**Address distribution**

Byte	1		0	
	J1P4	J5P4	J1P4	J5P4
Bit0	J1P4	J5P4	J1P4	J5P4
Bit1	J1P2	J5P2	J1P2	J5P2
Bit2	J2P4	J6P4	J2P4	J6P4
Bit3	J2P2	J6P2	J2P2	J6P2
Bit4	J3P4	J7P4	J3P4	J7P4
Bit5	J3P2	J7P2	J3P2	J7P2
Bit6	J4P4	J8P4	J4P4	J8P4
Bit7	J4P2	J8P2	J4P2	J8P2

IO-Link	model	product description	I/O connection mode
Class A	IACM-AIO8VI-IOL	IO-LINK slave module 8 x AIO port IP67 protection rating	M12, 5pin hole seat, A code

**Communication and power parameters**

connection type	1×M12 A-code; 5- Core hole seat	System power supply voltage US	18...30 VDC(type.24VDC)
communication protocol	IO-LINK	Power port tightening torque	M12:0.5Nm
Communication rate	38.4 kbit/s (COM2)	No load current consumption	≤80mA
minimum cycle time	55 ms		
Communication port tightening torque	M12:0.5Nm		


**Analog input and output parameters**

Input. Output quantity	8 currents or voltages	Voltage input output error	< ±0.3% full scale
Position of the input and output ports	J1...J8	Current input/output error	< ±0.3% full scale
Current input/output range	0~20 mA 4~20 mA	resolution ratio	16 bit
Voltage input/output range	0~+5 VDC;0~+10 VDC;+5~+10 VDC	Measurement display and output format	16 bit unsigned integer
diagnose	Contain self-diagnosis	factory settings	0-+10 VDC input
Sensor power supply ripple wave	24VDC <1%		

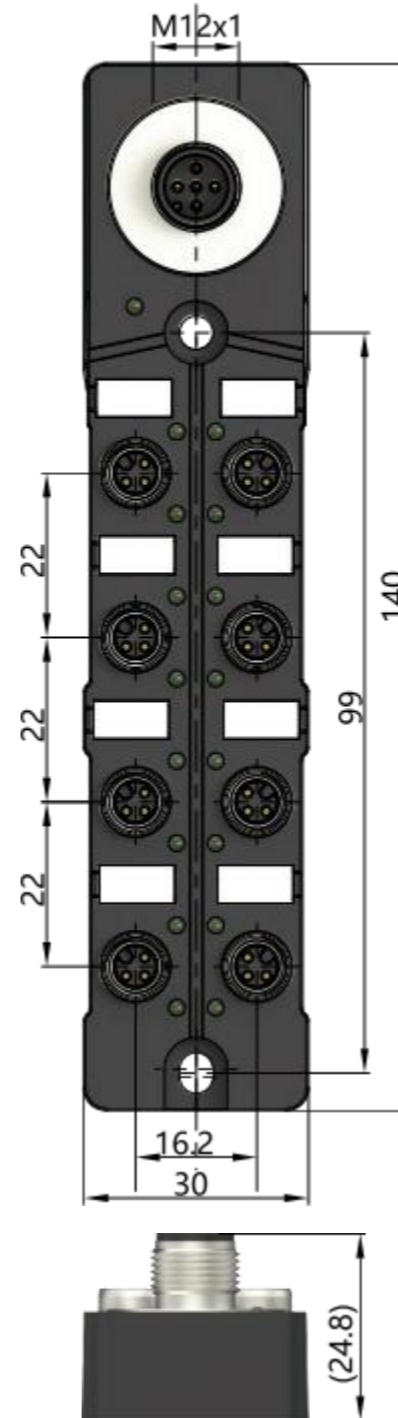
**Module indicator**

PWR	Green: The power supply to the module is normal
	Off: The module is powered off
AI (J1...J8)	Extinguish (LEDA,LEDB); Port close
	Green (LEDA): The channel signal is normal and the input/output signal is within the effective range
	Red (LEDA): The input/output signal is out of range
	Red (LEDA,LEDB): Pins 1 and 3 are short-circuited or port disconnected
IO-LINK	Green: The communication is down
	Blinking green: The communication is normal
	Red: Communication is interrupted

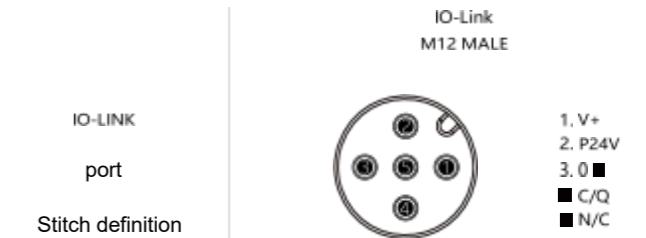
**I/O port pin definition**

port	Stitch definition	Address distribution					
	M12(J1~J8) Class A	port	Byte	AIO	port	Byte	AIO
M12 A-code female connector	 <p>1. V+ 2. AI+/AO+ 3. 0 V 4. NC 5. PE</p>	J1	Byte0	AIO1 LSB	J5	Byte8	AIO5 LSB
			Byte1	AIO1 MSB		Byte9	AIO5 MSB
		J2	Byte2	AIO2 LSB	J6	Byte10	AIO6 LSB
			Byte3	AIO2 MSB		Byte11	AIO6 MSB
		J3	Byte4	AIO3 LSB	J7	Byte12	AIO7 LSB
			Byte5	AIO3 MSB		Byte13	AIO7 MSB
		J4	Byte6	AIO4 LSB	J8	Byte14	AIO8 LSB
			Byte7	AIO4 MSB		Byte15	AIO8 MSB

# 16 digital input/output M8 series



**Data port pin definition**



**underlying parameter**

shell material	PA6+GF
shell color	black
level of protection	IP67, epoxy full potting
boundary dimension	140mm×30mm×24.8mm
weight	180g
operating temperature	-25°C...70°C
Storage/transport temperature	-40C...85°C
operating temperature	5%..95%
Storage/transport humidity	5%..95%
Operating atmosphere	80KPa.....106KPa
Preserve/transport atmospheric pressure	80KPa.....106KPa
I/O port tightening torque	M12:0.5Nm
application environment	Conforms to EN-61131
vibration measurement	Comply with IEC60068-2
impact test	Comply with IEC60068-27
Free drop test	Comply with IEC60068-32
Electromagnetic Compatibility (EMC)	Complies with IEC61000-4-2-3-3-4
authentication	CE,RoHS
Mounting hole specification	φ4.3mm×2

IO-Link	polarity	model		
Class A	PNP	IACM-DI8P-IOL-M8	IACM-DO8P-IOL-M8	IACM-DIO8P-IOL-M8
	NPN	IACM-DI8N-IOL-M8	IACM-DO8N-IOL-M8	IACM-DIO8N-IOL-M8

product description IO-LINK slave module, 8 x port, IP67 protection level

I/O connection mode M8,3pin socket, A code

**IO-Link Slave station parameters**

IO-Link Indicates the number of ports 1x equipment

IO-Link processes data length 2 input bytes 2 output bytes 2 input bytes 2 output bytes

Minimum cycle 3 ms

**Input and output parameters**

Quantity of input and output	8-way input	8-way output	8-way adaptive
rated operational voltage	18...30V DC		
Maximum load current (sensor)	200 mA		200 mA
Maximum load current		500 mA	500 mA
Total current UI	<1.6A		<1.6A
Total current UO		<2.5A	<2.5A

**Module indicator**

O-LINK RUN	Green: The communication is down
	Blinking green: The communication is normal
	Red: Communication is interrupted
I/o	Green: The channel signal is normal
	Red: The port is faulty

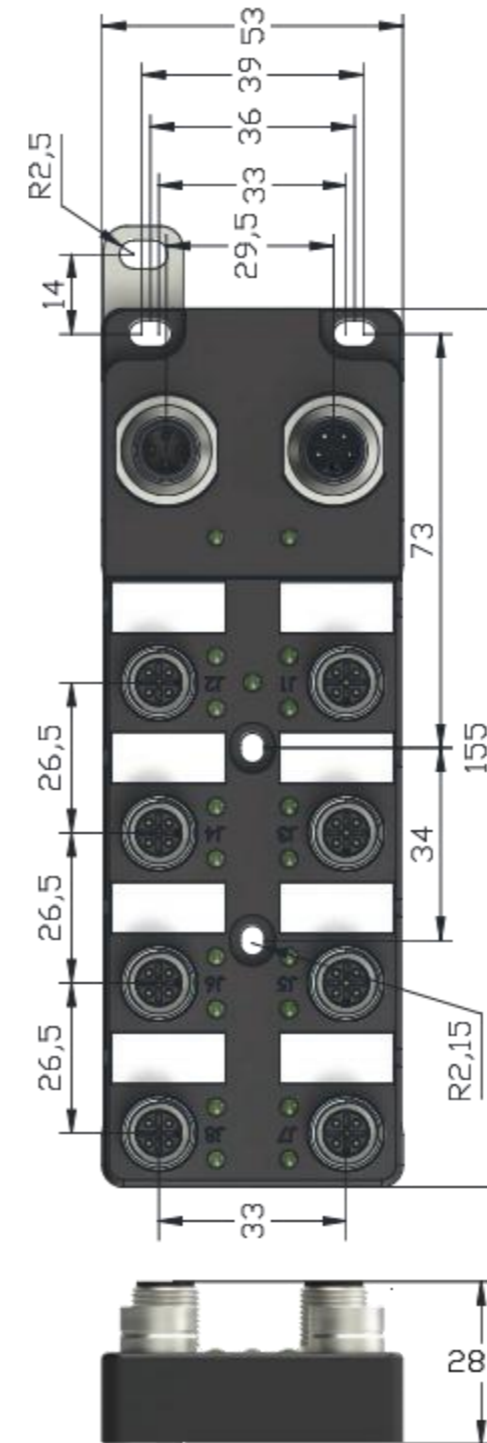
**I/O port pin definition**

port	M8(J1~J8)		M8(J1~J8)		M8(J1~J8)	
	PNP	NPN	PNP	NPN	PNP	NPN
M12	<b>Input</b>	<b>Input</b>	<b>Output</b>	<b>Output</b>	<b>Input/Output</b>	<b>Input/Output</b>
A-code	1. 24 VDC+	1. 24 VDC+	1. N/C	1. 24VDC+	1. 24 VDC+	1. 24 VDC+
female connector	4. Input	4. Input	4. Output	4. Output	4. Input/Output	4. Input/Output
	3. 0 V	3. 0 V	3. 0 V	3. N/C	3. 0 V	3. 0 V

**Address distribution**

Byte	1
Bit0	J1P4
Bit1	J2P4
Bit2	J3P4
Bit3	J4P4
Bit4	J5P4
Bit5	J6P4
Bit6	J7P4
Bit7	J8P4

Can expand 16 channels digital input and output series



**Data port pin definition**

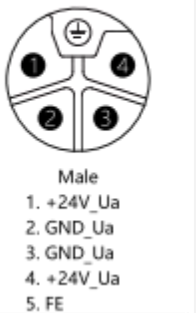
IO-LINK port	IO-Link M12 MALE	Stitch definition
		1. V+ 2. N/C 3. 0 V 4. C/Q 5. N/C

**underlying parameter**

shell material	PA6+GF
shell color	black
level of protection	IP67, epoxy full potting
boundary dimension	155mm×53mm×28.7mm
weight	227g
operating temperature	-25°C...70°C
Storage/transport temperature	-40C...85°C
operating temperature	5%..95%
Storage/transport humidity	5%..95%
Operating atmosphere	80KPa.....106KPa
Preserve/transport atmospheric pressure	80KPa.....106KPa
I/O port tightening torque	M12:0.5Nm
application environment	Conforms to EN-61131
vibration measurement	Comply with IEC60068-2
impact test	Comply with IEC60068-27
Free drop test	Comply with IEC60068-32
Electromagnetic Compatibility (EMC) authentication	Complies with IEC61000-4-2-3-4 CE,RoHS
Mounting hole specification	φ4.3mm×4

**Auxiliary power port pin definition**

Auxiliary power port	Power connection mode	Power connection mode M12,5,L-code, male/female
M12	System power supply voltage us	18.30 VDC(type.24VDC)
	Auxiliary power supply voltage ua	18.30 VDC(type.24VDC)
L-code	Total current Is	12A
	Total current Ia	12A
male end	Static working current Ic	≤150m
Stitch definition	Power reverse protection	have
	Power port tightening torque	have



IO-Link	polarity	model		product description	I/O connection mode
Class A	PNP	<b>IACM-DO16P-IOL-V</b>	<b>IACM-DIO16P-IOL-V</b>	IO-LINK slave module 8x port IP67 protection rating	M12, 5pin hole seat, A code
	NPN	<b>IACM-DO16P-IOL-VR</b>	<b>IACM-DIO16P-IOL-VR</b>		



**IO-Link slave station parameters**

IO-Link Indicates the number of ports	1 × device	1 × device
IO-Link Processes the data length	2 output bytes	2 input bytes 2 output bytes
Minimum cycle	3 ms	
<b>Input. Output parameters</b>		
Input. Output quantity	16-channel output	
rated operational voltage	18....30V DC	18....30V DC
Maximum load current (sensor)		200 mA
Maximum load current (actuator)	2A	
Total current UI		<1.6A
Total current UO	<12A	

**Module indicator**

IO-LINK RUN	Green: The communication is down
	Green flash: Normal communication
	Red: Communication is interrupted
PWR	Green: The power supply to the module is normal
	Off: The module power supply is not connected
I/o	Green: The channel signal is normal
	Red: The port is faulty
AUX	Green: The auxiliary power supply is normal
	Red: Auxiliary power supply is reversed
	Off: The auxiliary power supply is not connected

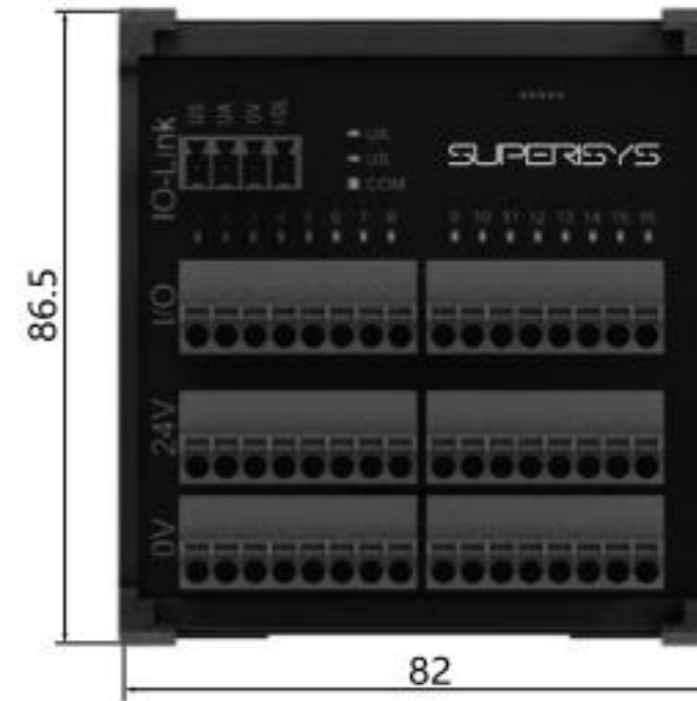
**I/O port pins are fixed**

端口	M12(J1~J8)	M12(J1~J8)
		
M12 A-code 母端	<b>PNP Output</b> 1. N/C 2. Output 3. 0 V 4. Output 5. FE	<b>PNP Input/Output</b> 1. 24 VDC+ 2. Input/Output 3. 0 V 4. Input/Output 5. FE

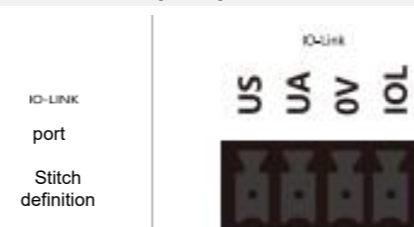
**Address distribution**

Byte	1		0		(-R)	Byte	0		1	
	1	0	1	0			0	1	0	1
Bit0	J1P4	J5P4	J1P4	J5P4	(-R)	Bit0	J1P4	J5P4	J1P4	J5P4
Bit1	J1P2	J5P2	J1P2	J5P2		Bit1	J1P2	J5P2	J1P2	J5P2
Bit2	J2P4	J6P4	J2P4	J6P4		Bit2	J2P4	J6P4	J2P4	J6P4
Bit3	J2P2	J6P2	J2P2	J6P2		Bit3	J2P2	J6P2	J2P2	J6P2
Bit4	J3P4	J7P4	J3P4	J7P4		Bit4	J3P4	J7P4	J3P4	J7P4
Bit5	J3P2	J7P2	J3P2	J7P2		Bit5	J3P2	J7P2	J3P2	J7P2
Bit6	J4P4	J8P4	J4P4	J8P4		Bit6	J4P4	J8P4	J4P4	J8P4
Bit7	J4P2	J8P2	J4P2	J8P2		Bit7	J4P2	J8P2	J4P2	J8P2

**Economical 16 channel digital input/output series**



**Data port pin definition**



underlying parameter	
shell material	PA66
shell color	black
level of protection	IP67, epoxy full potting
boundary dimension	86.5mm × 82mm × 48mm
weight	137g
operating temperature	-25°C...70°C
Storage/transport temperature	-40C...85°C
operating temperature	5%..95%
Storage/transport humidity	5%..95%
Operating atmosphere	80KPa.....106KPa
Preserve/transport atmospheric pressure	80KPa.....106KPa
I/O port tightening torque	M12:0.5Nm
authentication	CE,RoHS
Mounting hole specification	a typr with track

IO-Link	polarity	model		product description	I/O connection mode
Class A	PNP	IACM-DI16P-IOL-20	IACM-DO16P-IOL-20	IO-LINK slave module 8x port IP67 protection rating	M12, 5pin hole seat, A code
	NPN	IACM-DO16N-IOL-20	IACM-DO16N-IOL-20		

**IO-Link slave station parameters**

IO-Link Indicates the number of ports	1 × device	1 × device
IO-Link Processes the data length	2 output bytes	2 input bytes 2 output bytes
Minimum cycle	3 ms	

**Input. Output parameters**

Input. Output quantity	16-channel output	
rated operational voltage	18....30V DC	18....30V DC
Maximum load current (sensor)		200 mA
Maximum load current (actuator)	2A	
Total current UI		<1.6A
Total current UO	<12A	

**Module indicator**

IO-LINK RUN	Green: The communication is down
	Green flash: Normal communication
	Red: Communication is interrupted
PWR	Green: The power supply to the module is normal
	Off: The module power supply is not connected
I/o	Green: The channel signal is normal
	Red: The port is faulty
AUX	Green: The auxiliary power supply is normal
	Red: Auxiliary power supply is reversed
	Off: The auxiliary power supply is not connected

**I/O port pins are fixed**

I/O	16 DI / 16 DO																							
	Byte I								Byte II															
24V	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
0V									24 V								0 V							

**Address distribution**

Byte	0	Byte	1
Bit0	1	Bit0	9
Bit1	2	Bit1	10
Bit2	3	Bit2	11
Bit3	4	Bit3	12
Bit4	5	Bit4	13
Bit5	6	Bit5	14
Bit6	7	Bit6	15
Bit7	8	Bit7	16

IO-Link	polarity	model		product description	I/O connection mode
Class A	PNP	IACM-DIO16P-IOL-20	IACM-DI18P-IOL-20	IO-LINK slave module 8x port IP67 protection rating	M12, 5pin hole seat, A code
	NPN	IACM-DIO16N-IOL-20	IACM-DI8NDO8N-IOL-20		

**IO-Link slave station parameters**

IO-Link Indicates the number of ports	1 × device	1 × device
IO-Link Processes the data length	2 input bytes	1 input bytes 2 output bytes
Minimum cycle	3 ms	3 ms

**Input. Output parameters**

Input. Output quantity	16-way adaptive	8 inputs and 8 outputs
rated operational voltage	18....30V DC	
Maximum load current (sensor)	200 mA	
Maximum load current (actuator)	500 mA	
Total current UI	<1.6A	
Total current UO	<2.5A	

**Module indicator**

IO-LINK RUN	Green: The communication is down
	Green flash: Normal communication
	Red: Communication is interrupted
PWR	Green: The power supply to the module is normal
	Off: The module power supply is not connected
I/o	Green: The channel signal is normal
	Red: The port is faulty
AUX	Green: The auxiliary power supply is normal
	Red: Auxiliary power supply is reversed
	Off: The auxiliary power supply is not connected

**I/O port pins are fixed**

I/O	16 DIO																8DI								8DO							
	Byte 0								Byte 1								Byte 0															
24V	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0V									24 V								24 V								0 V							

**Address distribution**

Byte	0	Byte	1
Bit0	1	Bit0	9
Bit1	2	Bit1	10
Bit2	3	Bit2	11
Bit3	4	Bit3	12
Bit4	5	Bit4	13
Bit5	6	Bit5	14
Bit6	7	Bit6	15
Bit7	8	Bit7	16



# IACM - D series

Six DIO bus modules

COMMUNICATION MODULE

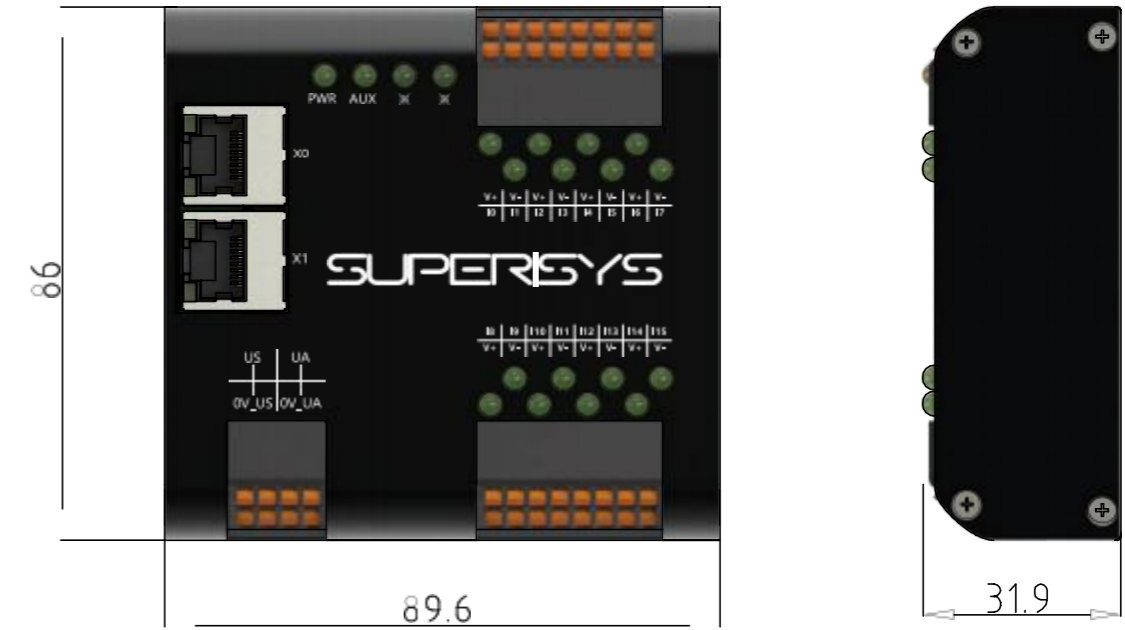


APPLICATION FIELD

3C  
new energy  
vehicles

IACM - D

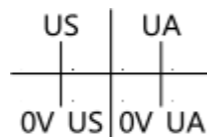
Independent module



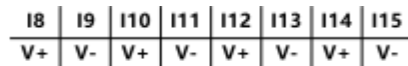
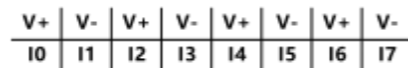
underlying parameter	
shell material	aluminium alloy
shell color	Anodized black
level of protection	IP20
boundary dimension	86mm×89.6mm×31.9mm
weight	301g
operating temperature	-25°C...70°C
Storage/transport temperature	-40C...85°C
operating temperature	5%..95%
Storage/transport humidity	5%..95%
Operating atmosphere	80KPa.....106KPa
Preserve/transport atmospheric pressure	80KPa.....106KPa
application environment	Conforms to EN-61131
vibration measurement	Comply with IEC60068-2
impact test	Comply with IEC6006B-27
Electromagnetic Compatibility (EMC)	Complies with IEC61000-4-2-3-4
authentication	CE,RoHS
Mounting hole specification	Rail mounting

communication protocol	model	product description	I/O connection mode
	IACM-DI16P-ECT	IACM-DI16N-ECT	16-channel input
	IACM-DI16P-PN	IACM-DI16N-PN	IP20 8 x 2 spring terminals
	IACM-DI16P-EIP	IACM-DI16N-EIP	Independent module max.1.5mm <sup>2</sup>
Digital input			
number of channels	16		
connection type	8 x 2 spring terminals,max.1.5mm <sup>2</sup>		
input type	PNP	NPN	
Input diagnostic type	Supply short circuit diagnosis		
switching threshold	EN 61131-2 Type 1/3		
switching frequency	250 Hz		
Module indicator			
EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol	
PWR	Green: The power supply to the module is normal Red: The power supply of the module is reversed		
I/O	Green: The channel signal is normal Red: The port power supply is short-circuited		
LINK	Green; Link normal Yellow flash: The link is normal and the data communication is normal Extinguish; No link established		
RUN	Green: indicates the OP status	SF	Red: The module is faulty
	Green slow blinking; SAFEOP status		Red: Internal error
	Green fast blinking: The Pre-OP status is displayed		Red: The module is faulty
ERR	Off: indicates the Init state	BF	Red blinking: Device name / IP address / The module group status is incorrect
	Red blinking: A communication error occurs	NS	Green: The network is normal
	Off: The module is working properly		Blinking green: The communication is not established Red blinking: The communication is interrupted

Schematic diagram of power terminal wiring

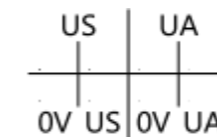


I/O terminal wiring diagram

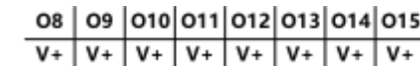
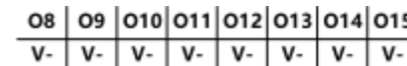
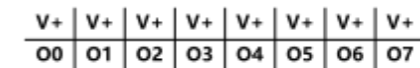
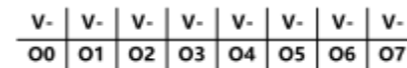



communication protocol	model	product description	I/O connection mode
	IACM-DI06P-ECT	IACM-D016N-ECT	16 channel output
	IACM-D016P-PN	IACM-D016N-PN	IP20 8 x 2 spring terminals
	IACM-D016P-EIP	IACM-D016N-EIP	Independent module max.1.5mm <sup>2</sup>
Digital input			
Output channel number	16		
output voltage	8 x 2 spring terminals,max.1.5mm <sup>2</sup>		
Channel output current	PNP	NPN	
Output diagnostic type	Point diagnosis		
Synchronization factor	OV(Potential group 24VDC)		
Channel output current	0.5A/ch		
loadtype	Resistance, sensibility, lamp		
Module indicator			
EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol	
PWR	Green: The power supply to the module is normal Red: The power supply of the module is reversed		
I/O	Green: The channel signal is normal Red: The port power supply is short-circuited		
LINK	Green; Link normal Yellow flash: The link is normal and the data communication is normal Extinguish; No link established		
RUN	Green: indicates the OP status	SF	Red: The module is faulty
	Green slow blinking; SAFEOP status		Red: Internal error
	Green fast blinking: The Pre-OP status is displayed		Red: The module is faulty
ERR	Off: indicates the Init state	BF	Red blinking: Device name / IP address / The module group status is incorrect
	Red blinking: A communication error occurs	NS	Green: The network is normal
	Off: The module is working properly		Blinking green: The communication is not established Red blinking: The communication is interrupted

Schematic diagram of power terminal wiring



I/O terminal wiring diagram



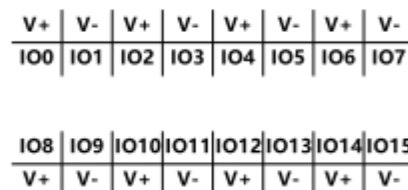
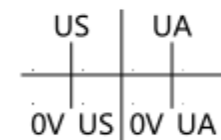
communication protocol	model		product description	I/O connection mode
	IACM-DIO16P-ECT	IACM-DIO16N-ECT	16 channels auxiliary access	Terminal connection,
	IACM-DIO16P-PN	IACM-DIO16N-PN	I/O adaptive	8x2 spring terminal,
	IACM-DIO16P-EIP	IACM-DIO16N-EIP	IP20 Independent module	Max. 1.5 mm


**Digital input and output**

number of channels	16		
connection type	8 x 2 spring terminal, max.1.5mm <sup>2</sup>		
input type	PNP	NPN	
Input diagnostic type	Supply short circuit diagnosis		
switching threshold	EN 61131-2 Type 1/3		
switching frequency	250 Hz		
Output type	PNP	NPN	
Output diagnostic type	Point diagnosis		
output voltage	OV(Potential group 24VDC)		
Channel output current	0.5A/ch		
loadtype	Resistance, sensibility, lamp		

**Module indicator**

	EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol	
PWR			Green: The power supply to the module is normal Red: The power supply of the module is reversed	
I/O			Green: The channel signal is normal Red: The port power supply is short-circuited	
LINK			Green: The link is normal Yellow flash: The link is normal and the data communication is normal Off: The link is not established	
RUN	Green: indicates the OP status Green Slow blinking: The SAFEOP is in the state	SF	MS	Green: The module is normal Blinking green: The module is not configured
	Green fast blinking: The Pre-OP status is displayed		Red: Internal error	Red: The module is faulty
	Off: indicates the Init state		Red blinking: Device name /	Green: The network is normal
ERR	Red blinking: A communication error occurs	BF	IPsite/	Blinking green: The communication is not established
	Off: The module is working properly		The module group status is incorrect	Red blinking: The communication is interrupted



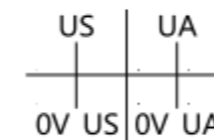
communication protocol	model		product description	I/O connection mode
	IACM-DI8PDO8P-ECT	IACM-DI8NDO8N-ECT	8 channel input	Terminal connection,
	IACM-DI8PDO8P-PN	IACM-DI8NDO8N-PN	8 channel output	8x2 spring terminal,
	IACM-DI8PDO8P-EIP	IACM-DI8NDO8N-EIP	IP20 Independent module	Max. 1.5 mm

**Digital input and output**

number of channels	8		
connection type	8 x 2 spring terminal, max.1.5mm <sup>2</sup>		
input type	PNP	NPN	
Input diagnostic type	Supply short circuit diagnosis		
switching threshold	EN 61131-2 Type 1/3		
switching frequency	250 Hz		
Output type	PNP	NPN	
Output diagnostic type	Point diagnosis		
output voltage	OV(Potential group 24VDC)		
Channel output current	0.5A/ch		
loadtype	Resistance, sensibility, lamp		

**Module indicator**

	EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol	
PWR			Green: The power supply to the module is normal Red: The power supply of the module is reversed	
I/O			Green: The channel signal is normal Red: The port power supply is short-circuited	
LINK			Green: The link is normal Yellow flash: The link is normal and the data communication is normal Off: The link is not established	
RUN	Green: indicates the OP status Green Slow blinking: The SAFEOP is in the state	SF	MS	Green: The module is normal Blinking green: The module is not configured
	Green fast blinking: The Pre-OP status is displayed		Red: Internal error	Red: The module is faulty
	Off: indicates the Init state		Red blinking: Device name /	Green: The network is normal
ERR	Red blinking: A communication error occurs	BF	IPsite/	Blinking green: The communication is not established
	Off: The module is working properly		The module group status is incorrect	Red blinking: The communication is interrupted



# IACM - D series

32 DIO bus modules

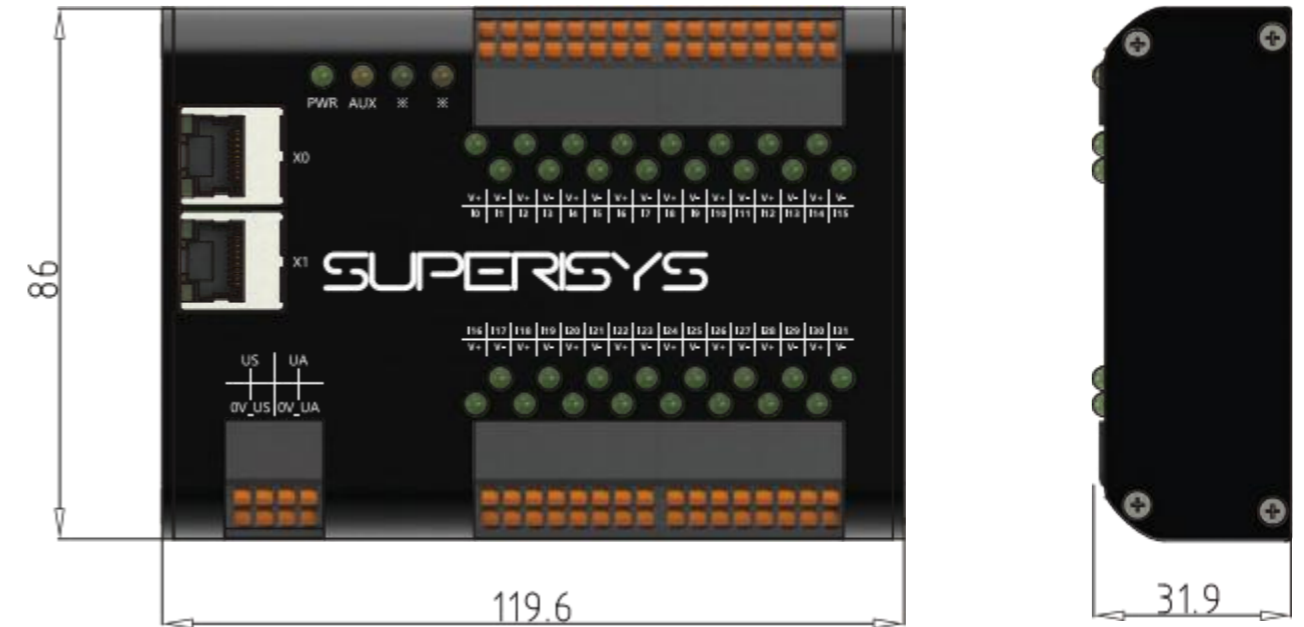
COMMUNICATION MODULE

APPLICATION FIELD

3C  
new energy  
vehicles



IACM - D  
Independent module



### underlying parameter

shell material	aluminium alloy
shell color	Anodized black
level of protection	IP20
boundary dimension	86mm×119.6mm×31.9mm
weight	429g
operating temperature	-25°C...70°C
Storage/transport temperature	-40C...85°C
operating temperature	5%..95%
Storage/transport humidity	5%..95%
Operating atmosphere	80KPa.....106KPa
Preserve/transport atmospheric pressure	80KPa.....106KPa
application environment	Conforms to EN-61131
vibration measurement	Comply with IEC60068-2
impact test	Comply with IEC60068-27
Electromagnetic Compatibility (EMC)	Complies with IEC61000-4-2-3-4
authentication	CE,RoHS
Mounting hole specification	Rail mounting

communication protocol	model		product description	I/O connection mode
	IACM-DI32P-ECT	IACM-DI32N-ECT	32 channel input	Terminal connection,
	IACM-DI32P-PN	IACM-DI32N-PN	IP20	16x2 spring terminal,
	IACM-DI32P-EIP	IACM-DI32N-EIP	Independent module	Max. 1.5 mm

Digital input

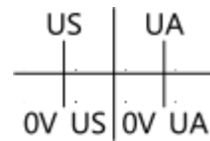
number of channels	32
connection type	16 x 2 spring terminals,max.1.5mm <sup>2</sup>
input type	PNP NPN
Input diagnostic type	Supply short circuit diagnosis
switching threshold	EN 61131-2 Type 1/3
switching frequency	250 Hz

Module indicator

EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol
PWR	Green: The power supply to the module is normal Red: The power supply of the module is reversed	
I/O	Green: The channel signal is normal Red: The port power supply is short-circuited	
LINK	Green; Link normal Yellow flash: The link is normal and the data communication is normal Extinguish; No link established	

Green: indicates the OP status	SF	Red: The module is faulty	MS	Green: The module is normal
Green slow blinking; SAFEOP status		Red: Internal error		Blinking green: The module is not configured
Green fast blinking: The Pre-OP status is displayed				Red: The module is faulty
Off: indicates the Init state	BF	Red blinking: Device name / IP address / The module group status is incorrect	NS	Green: The network is normal
Red blinking: A communication error occurs				Blinking green: The communication is not established
Off: The module is working properly				Red blinking: The communication is interrupted

Schematic diagram of power terminal wiring



IO terminal wiring diagram

V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-
I0	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14	I15		

I16	I17	I18	I19	I20	I21	I22	I23	I24	I25	I26	I27	I28	I29	I30	I31		
V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-	V+	V-		

communication protocol	model		product description	I/O connection mode
	IACM-DO32P-ECT	IACM-DO32N-ECT	32 channel input	Terminal connection,
	IACM-DO32P-PN	IACM-DO32N-PN	IP20	16x2 spring terminal,
	IACM-DO32P-EIP	IACM-DO32N-EIP	Independent module	Max. 1.5 mm

Digital input

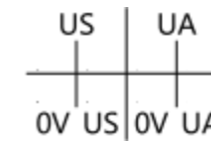
Output channel number	32
output voltage	16 x 2 spring terminals,max.1.5mm <sup>2</sup>
Channel output current	PNP NPN
Output diagnostic type	Point diagnosis
Synchronization factor	OV(Potential group 24VDC)
Channel output current	0.5A/ch
loadtype	Resistance, sensibility, lamp

Module indicator

EtherCat protocol	ProfiNet protocol	EtherNet/IP protocol
PWR	Green: The power supply to the module is normal Red: The power supply of the module is reversed	
I/O	Green: The channel signal is normal Red: The port power supply is short-circuited	
LINK	Green; Link normal Yellow flash: The link is normal and the data communication is normal Extinguish; No link established	

Green: indicates the OP status	SF	Red: The module is faulty	MS	Green: The module is normal
Green slow blinking; SAFEOP status		Red: Internal error		Blinking green: The module is not configured
Green fast blinking: The Pre-OP status is displayed				Red: The module is faulty
Off: indicates the Init state	BF	Red blinking: Device name / IP address / The module group status is incorrect	NS	Green: The network is normal
Red blinking: A communication error occurs				Blinking green: The communication is not established
Off: The module is working properly				Red blinking: The communication is interrupted

Schematic diagram of power terminal wiring



PNP/IO terminal wiring diagram


V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-
O0	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15		

O16	O17	O18	O19	O20	O21	O22	O23	O24	O25	O26	O27	O28	O29	O30	O31		
V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-	V-		

NPN/IO terminal wiring diagram

V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+
O0	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15		

O16	O17	O18	O19	O20	O21	O22	O23	O24	O25	O26	O27	O28	O29	O30	O31		
V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+	V+		

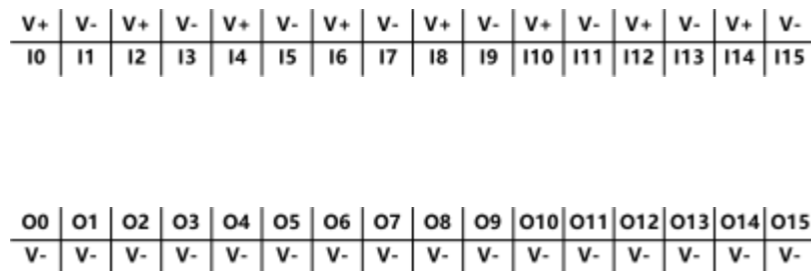
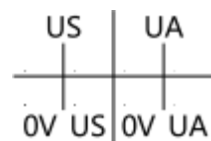
communication protocol	model	product description	I/O connection mode
	IACM-DI16PDO16P-ECT	16 channel input,PNP	Terminal connection,
	IACM-DI16PDO16P-PN	16 channel output ,PNP	8x2 spring terminal,
	IACM-DI16PDO16P-EIP	IP20 Independent module	Max. 1.5 mm


Digital input		Digital output	
number of channels	16	number of channels	16
number of channels	8 x 2 spring terminal, max.1.5mm <sup>2</sup>	number of channels	8 x 2 spring terminal, max.1.5mm <sup>2</sup>
input type	PNP	Output type	PNP
Input diagnostic type	Supply short circuit diagnosis	Output diagnostic type	Point diagnosis
switching threshold	EN 61131-2 Type 1/3	output voltage	OW(Potential group 24VDC)
switching frequency	250 Hz	Channel output current	0.5A/ch
		loadtype	Resistance, sensibility, lamp

Module indicator				
EtherCat protocol	ProfiNet protocol		EtherNet/IP protocol	
PWR	Green: The power supply to the module is normal Red: The power supply of the module is reversed			
I/O	Green: The channel signal is normal Red: The port power supply is short-circuited			
LINK	Green; Link normal Yellow flash: The link is normal and the data communication is normal Extinguish; No link established			
RU N	SF	Red: The module is faulty	MS	Green: The module is normal
		Red: Internal error		Blinking green: The module is not configured
ER R	BF	Red blinking: Device name / IP address / The module group status is incorrect	NS	Green: The network is normal
				Blinking green: The communication is not established
				Red blinking: The communication is interrupted

Schematic diagram of power terminal wiring

PNP/IO terminal wiring diagram



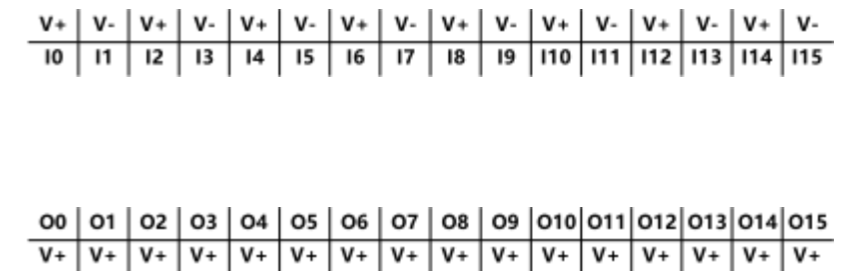
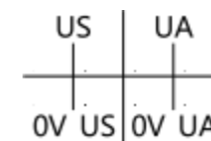
communication protocol	model	product description	I/O connection mode
	IACM-DI16PDO16N-ECT	16 channel input,NPN	Terminal connection,
	IACM-DI16PDO16N-PN	16channel output ,NPN	8x2 spring terminal,
	IACM-DI16PDO16N-EIP	IP20 Independent module	Max. 1.5 mm

Digital input		Digital output	
number of channels	16	number of channels	16
number of channels	8 x 2 spring terminal, max.1.5mm <sup>2</sup>	number of channels	8 x 2 spring terminal, max.1.5mm <sup>2</sup>
input type	NPN	Output type	NPN
Input diagnostic type	Supply short circuit diagnosis	Output diagnostic type	Point diagnosis
switching threshold	EN 61131-2 Type 1/3	output voltage	OW(Potential group 24VDC)
switching frequency	250 Hz	Channel output current	0.5A/ch
		loadtype	Resistance, sensibility, lamp

Module indicator				
EtherCat protocol	ProfiNet protocol		EtherNet/IP protocol	
PWR	Green: The power supply to the module is normal Red: The power supply of the module is reversed			
I/O	Green: The channel signal is normal Red: The port power supply is short-circuited			
LINK	Green; Link normal Yellow flash: The link is normal and the data communication is normal Extinguish; No link established			
RU N	SF	Red: The module is faulty	MS	Green: The module is normal
		Red: Internal error		Blinking green: The module is not configured
ER R	BF	Red blinking: Device name / IP address / The module group status is incorrect	NS	Green: The network is normal
				Blinking green: The communication is not established
				Red blinking: The communication is interrupted

Schematic diagram of power terminal wiring

PNP/IO terminal wiring diagram



# SW - H series

100 megabit industrial switch

## 10/100M SWITCH

APPLICATION FIELD

Automation industry  
Internet of things industry



Input voltage: DC: 10-58V  
Operating temperature: -40°C ~ +85°C  
Shell: IP40 protection grade, fanless design  
Anti-static power: 8KV-15KV  
MTBF: 100,000 hours

The device adopts storage and forwarding, no fan, low power consumption design, with easy to use, small size, simple maintenance and other advantages. Product design in line with Ethernet standards, add lightning protection, anti-static protection measures, -40°C ~ +85°C wide range of operating temperature, stable and reliable performance, can be widely used in intelligent transportation, telecommunications, security, financial securities, customs, shipping, electricity, water conservancy and oil fields and other broadband data transmission fields

## PRODUCTFEATURE product feature

- High Protection
  - Level 3 Power Surge Protection (IEC)
  - Level 3 Surge Protection (IEC)
  - Class A (Industrial Grade) External Electromagnetic Protection (EMI)
  - Level 4 Antistatic interference (ESD)
- IP40 protection grade to prevent the invasion of solid foreign objects with a diameter greater than 1.0mm, to ensure the normal operation of the product
- Support wide voltage
  - DC10-58V voltage power supply to provide more options for users' on-site needs
  - The power interface is Phoenix terminal, dual power supply redundancy, more reliable use. Natural heat dissipation
  - Adopts fanless natural heat dissipation mode, suitable for a wide range of scenarios,
- No additional cooling equipment is required
  - DIN snap gauge
  - Card rail design, easy to use wall-mounted installation



Intelligent transportation  
Modern urban traffic often requires a cascade of signal light equipment.  
Superisys switch supports 20km distance data transmission function, provides RJ45 standard network port, convenient access to local equipment communication, greatly reducing construction costs, and convenient staff management.

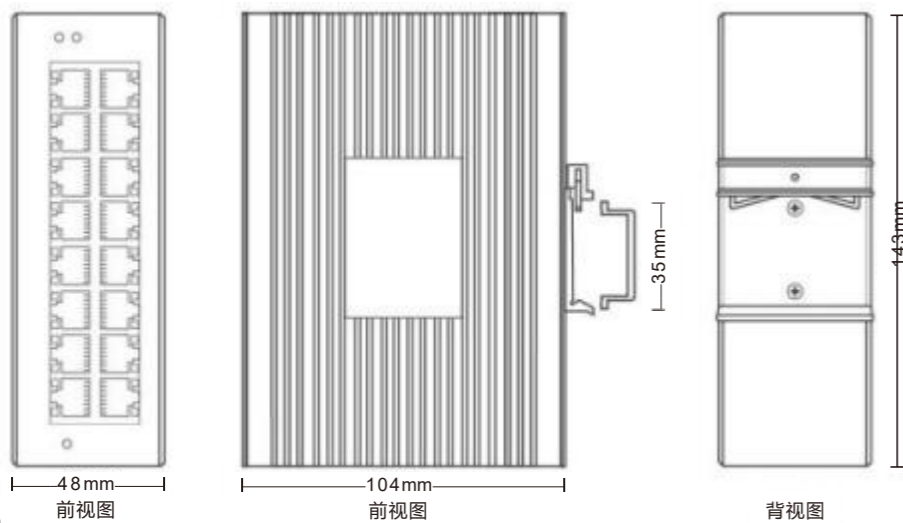


Security field  
Security monitoring is mostly used in complex and changing environments, often requiring multiple groups of cameras to work simultaneously.  
Superisys switches quickly expand the number of network ports,  
Multiple cameras are integrated into one TCP/ IP main line for video transmission to help users quickly network and meet on-site needs.

SCENARIOAPPL  
LiveApp

product model		SW-H05	SW-H08	SW-H16	
power interface		Phoenix terminal, dual power supply redundancy			
port	network port	10/100 Base -T			
	Number of ports	five	eight	sixteen	
	Network port rate	10/100M adaptive electrical port			
	indicator light	PWR.Link/ACT			
communication wires and cables	Twisted pair (Super 5 and 6)		100m(CAT5E,CAT6)		
electrical specification	input voltage	DC DC 10-58V			
	overall power consumption	Common model <6W			
Network topology interface	star topology	support			
	bus topology				
	tree topology	support			
	MACaddress list	16K			
Switching function parameter	Packet buffer size	4M			
	Forwarding delay	< 5uS			
	Polarity reversal	support			
	traffic control	support			
	jumbo frame	support10k bytes			
	exchange capacity	32G			
	Packet forwarding rate	23.8Mpps			
	Enclosure tightness	IP40			
	level of protection	Power surge protection	IEC 61000-4-5 Level3(4KV/2KV)(8/20us)		
		Network port surge protection	IEC 61000-4-5 Level 3(4KV/2KV)(10/700us)		
EMI		CLASS A			
Antistatic interference		IEC61000-4-2 Level4 (8K/15K)			
work environment	Free fall	0.5m			
	operating temperature	-40°C ~ +85°C			
	Storage/transport temperature	-40°C ~ +85°C			
	relative humidity	5%~95%, no condensation			
mean free error time	heat-dissipating method	No fan, natural heat dissipation			
	MTBF				
mechanical structure	size	143X104X48mm			
	way to install	Rail mounting			
	shell material	aluminium alloy			
	weight	0.8kg			
accessories	Device, terminal, power adapter				
POE function	POE model				

Product dimensions/installation diagram

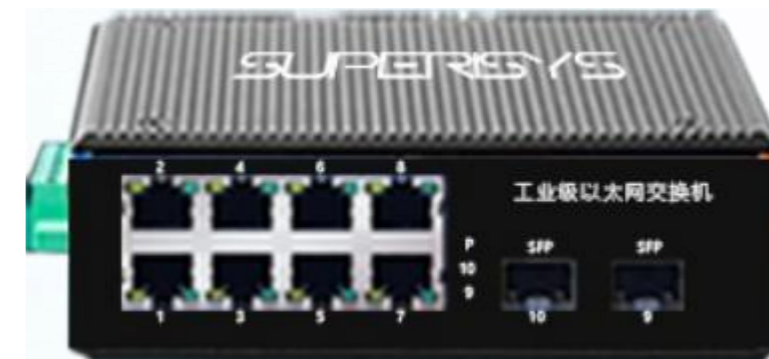


SW - T series

Gigabit industrial switch

10/100/1000M SWITCH

Automation industry  
Internet of things industry



Product adopts fanless heat dissipation design, with -40°C ~ 85°C working temperature, small size, all metal shell, with IP40 protection grade, vibration resistance, high temperature resistance, low temperature resistance, dust, lightning protection and other excellent industrial quality, enhance the reliability and safety of industrial network. Meet the deployment requirements of rail transit, safe city, intelligent transportation, security monitoring and other harsh environments, and provide reliable and convenient solutions for users' Ethernet equipment networking.



**PRODUCTFEATURE**  
product feature

- Reliable data transmission, long working life
- Supports full-duplex or half-duplex mode and automatic negotiation
- The network port supports automatic cross identification
- The in-band store-and-forward mechanism supports multiple protocols
- In line with industrial operation standards, the average trouble-free work hours of more than 300,000
- Power supply: DC 12-52V provides reverse protection
- Lightning Surge protection (Power supply) : 5000A(8/20μs)

automation in industry



rail traffic



Energy development and transmission



security and protection monitoring



Unattended and automated

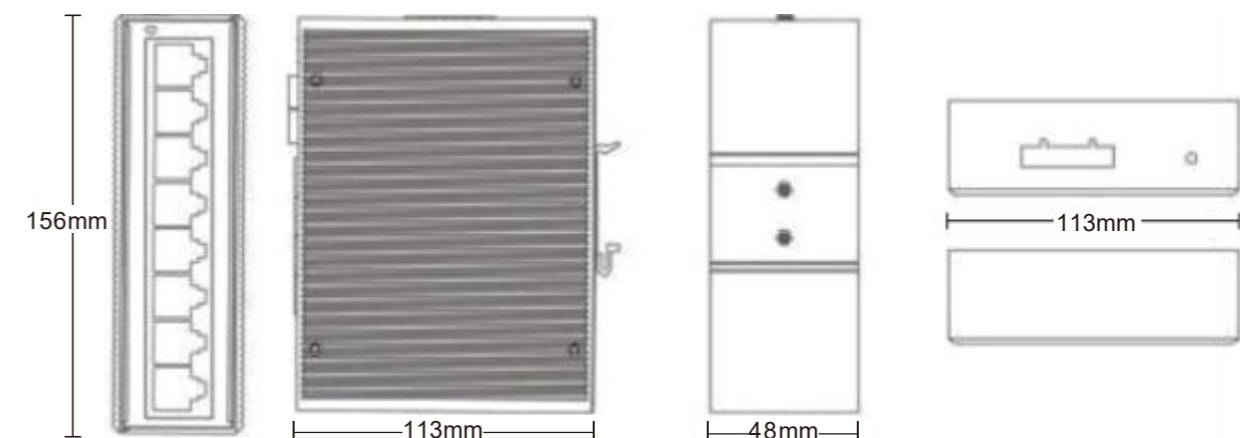


wireless coverage

**SCENARIO APPLI**  
LiveApp

product model	SW-T05	SW-T08	SW-T16
Number of ports	Five RJ45 ports	Eight RJ45 ports	16 RJ45 ports
Port specification	10/100/1000 BaseT(X) Automatic detection, full/half duplex MDI/MDI-X adaptive		
Ethernet standard	IEEE802.310BASE-T;IEEE802.3i;10Base-T;IEEE802.3u;100Base-TX/FX; IEEE802.3ab1000Base-T;IEEE802.3z1000Base-X;IEEE802.3x;		
MAC address table	1K	1K	1K
Packet cache	512kbit	512kbit	4kbit
Backplane bandwidth	10G	20G	56G
Forwarding rate	7.4Mpps	11.9Mpps	23.80Mpps
power supply	DC12-52V(dual power supply redundancy backup, support built-in overcurrent 4.0A protection, support reverse protection)		
Supply terminal	Phoenix terminal		
overall power consumption	<3W	<3W	<15W
way to install	DIN Card rail type		
heat-dissipating method	Natural heat dissipation, no fan		
outer shell	metal shell		
protection	IP40		
operating temperature	-40~85°C(-40~185°F)		
storage temperature	-40~85°C(-40~185°F)		
relative humidity	5%~95%(no condensation)		
size	130x95x33.5mm		
Bare weight	0.36kg		
mean free error time	300.000 hours		
warranty period	triennium		

Product dimensions/installation diagram



# DS-TP series

Industrial double serial port server

## INDUSTRIAL DOUBLE SERIAL PORT SERVER

APPLICATION FIELD

Automation industry  
Internet of things industry



DS-TPR4-01 is a dual serial server, using the Cortex-M7 solution, the main frequency up to 400MHz, better performance, faster transmission speed, and higher reliability. Support RS-232 and RS-485 work simultaneously, equipped with deeply optimized TCP/ IP protocol stack. Dual watchdog and a variety of activation mechanisms to help the stable operation of the equipment; Support TCP Client, TCP Server, UDP Client, UDP Server, Httpd Client five working modes, simple configuration can achieve the data transparent transmission function. Support Modbus TCP and Modbus RTU protocol transfer; Support Modbus multi-host polling function; The machine conforms to industrial design standards, reliable EMC protection, -40 ~85° working temperature, can adapt to various complex industrial scenes; Each serial port supports two sockets running at the same time and can be connected to different servers. The two sockets backup each other, which improves reliability.

## PRODUCT FEATURE

product feature

- New ARM core, industrial grade operating temperature range, deeply optimized TCP/ IP protocol stack
- Reliable hardware protection, electrostatic protection, surge, pulse group three protection hardware watchdog function, crash automatic restart, the module is more stable and reliable support 5-36V wide voltage input, with anti-reverse protection
- Support RS232+RS485 work at the same time, non-interference
- Supports dual Socket mode
- Supports the virtual serial port function, and the corresponding software (USR-VCOM) supports static IP addresses or DHCP automatically obtains IP addresses
- Supports Modbus protocol conversion
- Built-in web page, you can set parameters through the web page
- Supports firmware upgrade through web pages and configuration software, making firmware update more convenient
- Supports the Keepalive mechanism to quickly detect anomalies such as dead connections and quickly reconnect. Supports the Web socket function, and supports a maximum of 16 web socket clients
- Two-way data transfer with any serial port
- Supports serial port and network AT instructions
- UDP support

## SCENARIO APPLI

LiveApp

Electrical fire network alarm



DS-T PR 4-0 1 Network communication with the RS232/485 serial port of the electric and gas fire alarm, the alarm information is quickly transmitted to the platform to remind the staff to eliminate the fire

Smart factory lighting



Traditional factory and mine lighting facilities are mostly "human tube lights", there is no way to do and production, monitoring linkage, resulting in energy wave charges, DS-TPR4-01 and serial lighting equipment networking communication, convenient lighting control, but also to achieve the equipment fault active reporting and other functions

Water plant water supply monitoring



At present, the water supply system of the water plant is still based on cross-port networking communication, which is only suitable for single-machine operation and the transmission distance is limited, and the system maintenance is difficult. DS-TPR4-01 provides the function of serial port to network port to monitor the work details of the water plant equipment in real time through TCP Server mode

product model	DS-TPR4-01	
working voltage	DC 5.0~36.0 V	
working current	Version H7:67mA@12V Version HB: 87mA@12V	
size	82.5*86*25mm(L*W*H)(without terminals and mounting ears)	
way to install	suspension loop	
Hardware parameter	Ground screw	one
	operating temperature	-40~85°C
	storage temperature	-40~105°C
	operating humidity	5%~95%RH(no condensation)
	Storage humidity	5%~95%RH(no condensation)
	authentication	CE, FCC, ROHS
Communication interface parameter	Network port specifications	RJ45, 10/100Mbps, cross direct connection adaptive
	Number of network ports	one
	Serial port specifications	RS232:DB9 pin type; RS485:3 wires (A+,B-,GND)
	Serial port number	2 serial ports (232/485 can be used at the same time)
	Serial baud rate	600-230.4K(bps)
	data bits	7, 8
Protection parameter	parity bit	None, Even, Odd
	fluid control	RS232RTS/CTS, XON/XOFFRS485:XON/XOFF
	RS485 pull-down resistor	2.2KΩ
	electrostatic protection	Air ±8KV, contact ±6KV±1KV±1KV
	Surge interference test	±1KV
	Electric fast pulse group pulse bank	±1K
software function	networking protocol	VIP, TCP, UDP, ARP, ICMP, IPV4, DHCP, DNS
	IP acquisition mode	Static IP address and DHCP
	DNS(domain name resolution)	support
	Modbus gateway	support
	Web to serial port	Support WebSocket communication mode web page to serial port
	HTTP Client	support
configuration	UDP multicast	support
	configuration	Configuration software, AT command configuration, web configuration
		Dynamic cache, by package cache
	Serial cache	For example, if the packet length is 10 bytes, 450 packets (4.5KB) can be cached
Network port cache	When the packet length is 1460 bytes, 10 packets (14.6KB) can be cached	
Network port cache	48Kbyte	

Product size/installation indication diagram

